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# CALIFORNIA
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CALIFORNIA
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WESTERN MEDICINE

VOLUME XXIV MAY, 1926 No. 5

# ON MAKING THE WORLD BETTER*

*By* EDWARD N. EWER

IT IS indeed an honor to welcome the California Medical Association with its 4000 members and their families and friends to this East Bay District.

The Alameda County Medical Association feels keenly its responsibilities as your host, and I, elected to preside at this meeting among friends of my own county, am honored beyond my deserts. We all feel sure that the scientific papers and discussions provided by your section officers and program committee will be of great interest, and our local arrangement committee will be disappointed if, in any particular, its plans for your entertainment miscarry.

EDWARD N. EWER

Year by year these meetings are assuming greater importance in cementing professional friendships and unity of medical thought. The attendance continually improves, interest sharpens, the essays and discussions are better, and by these tokens we may feel assured that the value of close organization is recognized as the best means of safeguarding the public health and our professional interests.

Meeting needs seem to be expanding, for new societies are appearing in the field with increasing frequency, and the organization of hospital staffs is furnishing another outlet for the get-together spirit. It is to be hoped this will not detract from the interest in our regular associations—county, state, and national—for it is in their transactions that our influence will be built up and matters of policy threshed out. Aside from uplift force within the ranks, it is as certain as anything can be that the advancement of medicine, and its usefulness in the general scheme of community and political life, are improved and made wholesome by thorough organization. It holds its members under the discipline of a code of ethics not excelled by that of any other group. Those who transgress that code are guilty of disloyalty, and they degrade medicine in the eyes of the people. Those who ridicule our ethics are the cynics of the Bernard Shaw type, who habitually sneer at disinterestedness and moral worth. Shaw, for instance, called medical ethics "a conspiracy against the public." The public little knows what it suffers at the hands of cults and medical frauds outside our code.

Organized medicine has committees and bureaus for investigation planned to separate the good from the bad. The American Medical Association has developed these activities far beyond any other medical organization in the world. Those physicians who take a few moments each week to look over the A. M. A. Journal account of the work of the chemical laboratory, where original investigations are made and nostrums analyzed, and who pay attention to the painstaking examinations of the Council on Pharmacy and Chemistry, find they are tapping veritable mines of useful information.

For several years I received regularly most of the state medical journals published by our sister societies throughout the country. I read as much of their material as I could, and always with increasing respect for CALIFORNIA AND WESTERN MEDICINE. Let me hasten to say this was not due to inferiority in the others, but because I found our own Journal

* Address of the President of the California Medical Association, Oakland, April 28, 1926.

so extensively quoted that I knew its up-to-datedness and literary merit were being appreciated in circles where quality counts. Your Council is proud of its Journal and of its devoted Editor, to whom most credit for its goodness is due. The association structure is democratic in the truest meaning of the term. Its component parts, the state societies, send elected delegates to form its governing body, and the state societies in turn are governed by delegates from the county units. This form of government is representative of the best in the membership, and no form of organization could be more worthy of loyalty and support. Complete unity of thought cannot be expected, but subversive individualism must succumb to the decisions of an elected central authority if we hope to present a sturdy front when menaced from without. If it is thought there is no menace, that the cry of wolf is heard when there is no wolf, one has but to turn to England for the answer. We need a rallying cry which will bring our hosts into fighting position when attacked.

Our forefathers in medicine bequeathed us a respectable, even commanding, position in society, which we are upholding so far as scientific attainment and progress are concerned. Let us then stand together and pass it on to our successors, not only unimpaired but improved.

There is a growing feeling in medical organization circles that medicine as a profession is in danger of being swallowed up by the great American service movement which James M. Cain describes as a disease, "an itch to make the world better." There are several thousand of these associations in existence. A surprising number of them have for all or part of their programs the almost forcible bestowal of some form of medical service upon a people who would value it more if they were taught to seek it and pay for it.

There has always been enthusiastic endorsement by physicians of all efficient disease preventive measures, as well as endorsement of necessary medical charity. In fact, voluntary free service constitutes one-third of the entire practice of physicians. When, on the other hand, a government prescribes by law such an atrocity as the panel system in England, and insurance companies plan to practice medicine wholesale in the supposed interest of their policyholders, we begin to see the results of the kind of education in helplessness which many of these servist societies are purveying. It seems worth while to inquire how far organized medicine can afford to go in the approval of agencies whose work paves the way to state medicine.

In a sudden burst of energy a few years ago we prevented compulsory health insurance being foisted upon us, but the underground rumblings are still heard and eternal vigilance is necessary to prevent the recrudescence of that or something similar. The purpose, however mistaken, of this prodigiously widespread service movement is laudable. It is to improve the social conditions under which we live, hence attacks upon any part of it are unpopular. We should be able to inject enough virility into our organizations to halt all unwise encroachments in the field of medicine which impair its influence and render it unattractive as a life work for men of good minds. If such avoid it, its present remarkable progress must slow down.

One of the presidents of the British Medical Association said that they got the panel system because of lack of good organization. Later, when attempts were made to still further cripple efficiency by reducing the ridiculously low panel fees, they had developed enough organization unity not only to defeat the reduction, but to actually force an increase.

There is no doubt we have a surfeit of social service. The expense of it in all its phases is vastly out of proportion to the benefits derived. Business houses and particularly retail merchants were called upon to supply the bulk of the funds until a few years ago, when the ever-increasing contributions became unbearable. Then some brain fertile with business sense found a wonderful way to reduce the pressure. The community chest movement went like wildfire, and with good reason, for it provided relief for the merchants by wider distribution of the burden. The clamor for community chest help continually goads the chest workers on to more strenuous efforts to increase their funds. These shock troops will soon meet an economic line of resistance. Then it will be necessary, and it will be found possible, to retrench in the luxuries of service without crippling the worthy charities. There is a heart side to the question, and the needy and oppressed must be cared for.

Some of the forms of service which contact with medicine are not tapping the community chests as yet, neither do they threaten the integrity of medicine as a profession. They do not, however, add to its dignity, and they have other pernicious features which need watching. One of them is the eugenic movement. It has bad possibilities as well as good. Something may come out of it in the future, but the past mistakes of the eugenists warn us to follow them very slowly and circumspectly. They blame everything wrong to heredity. While they grant some slight influence to environment, they treat it as an almost negligible factor.

It must be remembered that Mendel's experiments with the garden peas, the foundation of heredity studies, were announced in 1865, then forgotten till the beginning of the present century. So we are only in the infancy of eugenics. Much more experience and study are necessary before enough of the eugenic theories will blend into the realm of fact to be ready for use. About the only important thing so far proven is, that with a certain mathematical regularity, feeble-minded parents beget feeble-minded children. The difficulty here lies in the establishment of the degree of feeble-mindedness which warrants banishment to that land called "moronia" where people must not procreate.

Intelligence tests are not infallible as yet. We were told a few years ago that 50 to 90 per cent of those confined in our prisons were feeble-minded. Now comes Dr. Curti of Smith College and points out that these early adult tests were not constructed with the care given those for children, and are not nearly so reliable.

The failure of the Lombroso theory which sought

to distinguish a criminal class by definite physical stigmata, and which led to the sweeping changes since made in the treatment of criminals, has been followed by a "tendency among advanced thinkers today to make responsibility a matter chiefly of intelligence."

Goddard said in 1915 that careful studies indicate 50 per cent of all criminals are feeble-minded; and to quote Professor Terman in 1916, "there is no investigator who denies the fearful role played by mental deficiency in the production of vice, crime, and delinquency." There are many chagrined psychologists who deny it now, and Dr. Curti says: "This whole modern attitude that half the delinquency in society is the result of inborn mental defect, is grounded upon error, one of the most regrettable in the history of the new biological science of psychology." "The social workers are sincere, the judges fair-minded, the average educated person intelligent, but they are all misinformed. Psychologists as well as many outside the field have been guilty of overhasty generalization, of an overzealous attempt to apply prematurely the findings of a science yet in its infancy, findings that should have been given to the public, if at all, as purely tentative."

The old Terman-Binet tests showed 93,000 men of the white draft to have an average mental age of thirteen years. "This would show," according to Dr. Curti, "that the average citizen of the United States, if the white draft is a representative group, is just above the upper line of border-line deficiency, often classified as feeble-mindedness." It is manifestly absurd to believe that any such percentage of our country's population classify as border-line deficients.

The Army Alpha tests applied by Murchison to over 3000 white criminals showed them to have the same average intelligence as the white draft. Furthermore, attention is being drawn to the fact that proven morons are not very likely to become criminals anyway.

There is much more in Dr. Curti's paper, which was printed in the February, 1926, Scientific Monthly, to make one believe that the intensive study of crime, which is getting under way in this country, will dispel the hereditary disease theory and relieve us of this whole sob-sister maudlinism of criminal coddling.

And so we see that science is not immune from error. But it always tries to correct it. It deals with facts which it seeks out and brings to the surface to prove their truth. Its mistakes are sometimes temporarily embarrassing. It made one of them when it introduced the monkey into the plan of evolution, as a sort of early pre-Volstead period man. The monkey has had to be deleted, but evolution stands. It stands even though it cannot produce a set of working models, ranging from a single cell moving in the ooze of the paleozoic seas, on through successive living things to homo-sapiens.

Those who wish to delve into the wild excesses of the present eugenic enthusiasm should read that book with the ingenious title, "The Fruit of the Family Tree" by Albert Edward Wiggam. Another of his books widely read and quoted qualifies him as a breaker of images of the first water, frenzied and unafraid. Here are some of his chapter headings called warnings: 1. That the Advanced Races are Going Backward. 2. That Medicine, Hygiene, and Sanitation will Weaken the Human Race. 3. That Morals, Education, Art, and Religion will not Improve the Human Race.

That such near scientists can attract followers is passing strange. This earth does not lack areas where sanitation, medicine, and education have been neglected for countless ages, but they do not show the fit becoming fitter. If there is a survival of the fittest, they are only the best of the unfit of yesteryear.

As for religion, real scientists believe it does improve the human race and they do not deride it. Spiritual needs are real needs, scientific needs, and four-fifths of all people satisfy them through religion. "Religion," as Dr. Jordan says, "never dies, though religions change." The change is slow, while in science it is rapid. So rapid it seemed to intoxicate a class of self-appointed friends of science, whose poison pens brought on the flareup of 1925, the total result of which is four states made unsafe for science by laws hampering its teaching. As long as science confines its researches to the harnessing of nature's forces for industrial progress, it gets general applause. When it attempts the study of man, alleged to be the highest study of all, troubles arise because out of the haze of the distant past comes a story of his origin, embalmed for all time by the dictum that it is inspired. "This," says Dr. Fosdick, "appears to be the crux of the whole argument between religion and science." But it seems childish to find fault with that. All the great moral guidance lessons are best told in the Bible, and reason is not strained in believing them inspired. If the compilers of the Book found it necessary to include some folklore stories to press home those lessons in an age of superstition, fear, and ignorance, it was good psychology, and why not inspired? Also, there is abundant evidence we have not yet approached the passing of the age of superstition. What religion will be when that time comes, no one knows. In the meantime, following the Wiggams in their evaluation of religion, morals, education, art, and hygiene, and with them transferring our worship to the shrine of assortative mating, is to laugh.

The study of race heredity characteristics will proceed in more or less orderly course, but the material now available is but half-baked and indigestible.

Cain's article on service, to which I have already referred, was published last fall in an eastern magazine, and the title was the Pathology of Service. He considers it all pathology and, furthermore, a pathology peculiarly American. He condemns it wholeheartedly and unreservedly as, "fine schemes, having no objective validity at all, . . . whirling clouds . . . . in a national fever dream," and much more in the same sarcastic vein. He says that it is unknown in the Orient, in France, Germany, Italy, Russia, Spain, and most of the civilized world. Most people consider it one of the glorious achieve-

ments in American social life, and so it was until it became diseased from overfeeding. It is the pathology *in* service we ought to eradicate. Cain thinks it needs the surgery of ridicule. He thinks he has isolated the bacillus of service, and he finds it to be the dramatics of the thing. He notes that those who find nothing dull in their lives do not become servists, and he mentions as belonging to that class, cowboys, actors, bootleggers, opera singers, head waiters, baseball players, writers, newspapermen, and doctors. They all have something in their lives stimulating to self-admiration, and do not need the meetings, parades, and demonstrations with the badges, banners, and slogans attending the activities of the servists.

But to get back to the pathology. This bacillus plays strange pranks with its culture media, that is to say, the human brain, and when the right stage of softening occurs queer colonies appear. One of them is called birth control. It is characterized by an irresistible urge to tamper with the biology of population growth. Nothing is too foolish to attract followers, often in high places.

The extravagant claims made for birth control by its votaries stamp it as the most pretentious as well as the most bizarre of the servist cults. It was discovered for America in 1914 by Mrs. Margaret Sanger, then a trained nurse in New York. Her emotions and sympathies were aroused by contact with many poor families with many children, struggling with the problems of existence. She won sympathy for her cause through the assumption that it works in the direction of social and economic improvement of the poor.

It has been asked, "Do large families among the poverty stricken, however deplorable, justify a nation-wide program of broadcasting contraceptive information without reserve?" We must inquire if the information they wish to disseminate is likely to filter through to the classes they most desire to benefit, or will it supply another push downward to the already greatly reduced families of the well-to-do.

Grading the population from the very poor to the very rich, with the average of three children to the family somewhere in the middle register, the number is supposed to go up as the means for support go down. The ideal would be struck if the situation were reversed. There is nothing I can see in the birth control program which offers any prospect of accomplishing this. Neither do propangandists manifest any concern over this phase of it.

If the widespread establishment of clinics for teaching the use of contraceptive methods is brought about, and the families in the lower brackets, so to speak, are influenced to produce fewer children, it may dangerously reduce the average. Rather, we might concentrate upon other charitable measures for the improvement of facilities for the proper care of poor women at childbirth and afterward in the rearing of their babies.

Many eugenists and biologists seem to have been beguiled into a half-hearted endorsement of birth control. This was accomplished by a compromise made to them at the Birth Control Congress held in New York in November, 1921. At their insistence a resolution was passed stating that the purpose of the Birth Control League was "To encourage good sound families among our abler and more successful stocks." Of all things, this is just what it has not done. Some biologists admit this, but they have hopes for it in the future. But in Amsterdam, where they claim birth restriction has reached the highest degree of efficiency, the poor alone are not singled out for its attentions. Every mother, regardless of her stock or class in society, receives after delivery a circular about birth control.

The emotional reaction, which brought the movement into existence, attaches our sympathy; its ultimate reaches, however, seem not to bear the light of analysis.

Even among the very poor, children are not entirely a liability. It is, in spite of the eugenists, at least debatable whether any great majority of our most useful citizens are recruited from the opulent class. Certain it is that many brilliantly useful do come up from below.

While, then, sympathy for the downtrodden and burdened was the original incentive for the movement, that is being shoved more upstage at present. It is being hailed as a world measure for the relief of all ills both large and petty which beset states and nations.

One of their most enthusiastic supporters, Knopf, lays blame to our supposed unlimited fecundity for the fact that one-third of the millions of men examined in preparation for our entrance in the war, were found unfit for service. Another blames the whole war to the same thing. He says the fearful catastrophe was started by a nation in which unlimited procreation among rich and poor, the educated and the uneducated, the well and the sick, was not only encouraged but officially rewarded. But that is nothing. That is only one war. Here we have them all included in this flowery effusion from the pen of Mrs. Sanger: "No despot ever flung forth his legions to die in foreign conquest, no privilege-ruled nation ever erupted across its borders to lock in death embrace with another, but behind them loomed the driving power of a population too large for its boundaries and its natural resources."

Mrs. Sanger further proclaims that "the most vital problem in life in the United States today is reckless child-bearing." If we grant that there are instances of recklessness, the validity of the argument still depends upon how widespread it is, and therefore its importance as a world economic problem.

This brings up the inquiry as to how birth rates have been behaving in this and other countries in late years. The rate has declined over 30 per cent in the United States in the last thirty years, and it is still declining. The rapid population growth in recent years has been due to immigration and the relatively high fertility of these newcomers. The World Almanac for 1918 shows that foreign-born mothers in six eastern states gave birth to 51 per cent of the children. A large proportion of these people have come during their reproductive ages when the death rate is also at its lowest.

Restricted immigration should change all this. Our population has little more than maintained itself of late if we leave out the Southern States and some rural communities. The increase in population in the United States has not been attended with an increase in squalor, poverty, and unhappiness as we are led to expect. Neither was that the case in Germany, so often quoted for its horrific birth propensities before the war.

Birth controllers make great capital of the fact that Holland has practiced it for forty years. It is the banner birth regulation country of the world and is supposed to have reaped its benefits to the full. The average birth rate in the three principal cities in Holland was 37.7 per thousand in 1881, when the control movement was started. In 1912 it had fallen to 25.3 per 1000. But this is not so remarkable when we learn that the American birth rate during the same period went down in the same way, only it went lower, viz.: to 23 per 1000. It did this without the assistance of these clinics or other birth control ballyhoo. In England and Wales the rate fell from 33.5 to 23.8; in Germany from 37 to 28; in Norway from 31 to 25; in Sweden 29 to 23; and in Belgium 30.9 to 23. These declines have come in the natural course of events and are quite comparable with what happened in Holland.

Another thing they ascribe to these measures is that the general death rate dropped in the same period from 24 to 11 per 1000. But the death rate in America, Norway, Sweden, Germany, and most other civilized countries behaved in the same way.

They cast aside all modesty and reserve, however, when they claim that birth control has increased the stature of the Dutch people an average of four inches. Interesting if true. In this they are stealing the thunder of the eugenists. But this thing is not eugenics and has nothing to do with improving physical or mental characteristics by mating experiments.

They hold out birth restriction as the remedy for crime, ignorance, poverty, underfeeding, bad housing, tuberculosis, degeneracy, alcoholism, and mental defectiveness. The eugenists would *breed* them all away. Some of these things have decreased during the time our birth rate has been falling 30 per cent, and some of them have not. Crime in every form has greatly increased, in spite of our falling birth rate.

The homicide rate of the United States is twenty-four times the rate in Holland, and thirty-six times as great as in Switzerland. Switzerland then has a slightly better crime record than Holland without any particular attention from birth control organizations; and America with slight attention so far, but a greater natural birth decline than Holland, is so much worse in crime that it would be silly to connect the two as cause and effect.

If there is any kind of service organization this country needs, it is one to combat the "rising tide of crime." Compared with that job the cleansing of the Augean stables would be a holiday pastime.

According to our statisticians it is necessary for each nonsterile family to have a little better than three children to replace the original quota from which the parents sprang. Many groups of American families have been recently studied, and they have all shown fewer than this minimum. Professors Baber and Ross found in the Middle West "a shrinkage in family size from 5.4 to 3.3 children in the course of one generation."

The Neo-Malthusians claim that most of those suffering with tuberculosis range in number from the fifth up in their respective families; that the third and fourth children seldom become victims of tuberculosis, and the first and second almost never. Recent questioning of 300 tuberculosis patients showed that 75 per cent numbered fourth or under, and 25 per cent were fifth or over in their respective families; so this appears to refute the claim of the controllers. Could their contention that the first two children are almost never afflicted be substantiated, the anti-tuberculosis workers, whose efforts are supposed to have cut the tuberculosis death rate in two, might have to surrender their laurels. Even so they would not give them up to the controllers but to natural causes, for, as has been shown, there was occurring coincidentally with the decrease in tuberculosis a great reduction in the average size of families, and this quite independently of any clinical instructions in birth restriction.

My principal argument has been against birth control as a general national cure-all. I am opposed to the organization of birth control organizations, popular propaganda by lectures, and the establishment of these race-suicide service stations in "all populous centers." It is an expensive and superfluous kind of social service, almost nasty in character, and tending against community uplift and refinement. I am sure if there are any birth control necessities, they may safely be left quietly in the hands of the regular medical profession in its private offices, where they will never be unduly featured.

In conclusion, it seems to me that organized medicine should keep a sharp eye on the excesses of the servists in the interests of orderly progress, and that wisdom demands due recognition of the scientific needs of a humanity which derives its spiritual satisfaction from religion. Going along with religion in a helpful way will be far better than ridicule in keeping the fanatics from further crippling our school system.

After all, reconciliation of religion to scientific effort and progress approaches the ideal in agencies for making the world better.

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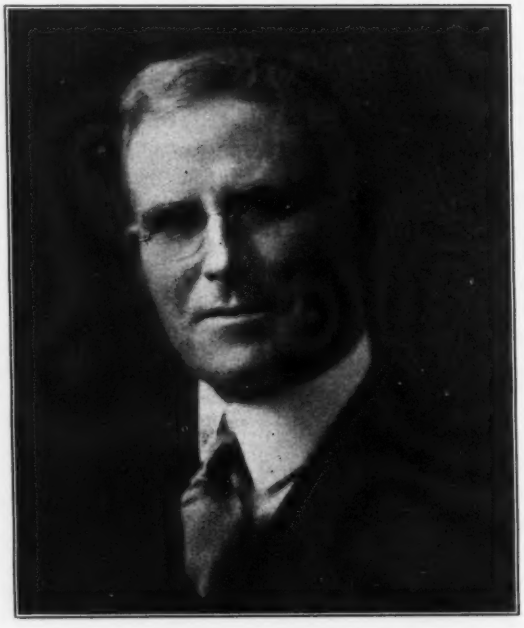
**The science and art of public health nursing have not been definitely established. The duties of the public health nurse are still vague and varied. There is a tendency to adopt the plan of generalized district nursing. The ratio of one nurse to each 2000 or 3000 population is usually recommended. On this basis, the majority of cities today are inadequately equipped. Many of the problems concerned with public health nursing require careful scientific study, demonstration of principles and definition of service rendered. The relation of municipal to private nursing agencies is an important one. There should be no division of responsibility, and the general supervision of all services to the community should be centralized under the general direction of the local health officer to guarantee a well-balanced program.—Hugh S. Cumming.**

# LOOKING BACKWARD WITH SATISFACTION AND FORWARD WITHOUT APPREHENSION*

*By* WILLIAM TAYLOR MCARTHUR, M. D.

IT IS now more than two thousand years since Hippocrates began blazing a trail through a world steeped in superstition and ignorance—a trail for the physician to follow, so definitely marked that no one need mistake the direction. The main purpose of the trail is the advancement of civilization, the making of life sweeter and safer for man by removing or counteracting the dangers to life, either from within his own body or from his environment.



WILLIAM TAYLOR MCARTHUR

Ruskin lighted Seven Lamps of Architecture to guide the architect in the pursuit of his art. There are many lamps along the trail of medical progress which will furnish inspiration and resolve to proceed further in search of the hidden truth in nature. Cast your eye backward to the Classic Period—the golden age of Greece—and there at the beginning of our journey you will see a lamp erected by Hippocrates in the presence of Socrates and Plato, Sophocles and Herodotus, Aristophanes and Pericles. It is a great beacon light whose kindly and beneficent rays make clear the high ideals of our profession and the ethical relation of the physician to his brother physician, and of the physician to his patient. They are our first rays of scientific medicine, throwing light on cause and effect, and demonstrate the importance of the mind and senses in the role of diagnosis. They impress upon us the value and necessity of a clean, honest, and upright life, and of a humanity so altruistic and far-reaching in its help to the suffering, that it stops at "neither East nor West, Border, nor Breed, nor Birth," and willingly faces Danger or Death, though it be at the ends of the earth. They furnish the physician the highest moral inspiration he possesses.

From the middle of the second century to the middle of the sixteenth, medicine groped along through the Dark Ages with little light except that furnished by the Galen candle. Its rays showed very little evidence of either science or art. Magicians, quacks, and charlatans of every kind infested the country, and our trail is rather dark for fourteen centuries. But with the Renaissance a new light appeared on the horizon—the anatomical lamp of Vesalius—which enabled the physician to get a knowledge of the structure of the human body by observation and dissection, and fitted him to perform his own surgery instead of relying on barbers and blacksmiths. Quite near on a high mountain-top, along the trail, stands the lamp of Physiology, set up by William Harvey about the middle of the seventeenth century. While the anatomical lamp shows the structure, the physiological lamp reveals the function of these structures, and the various processes taking place in the life of man from the cradle to the grave. It is a remarkably illuminating light, getting brighter and more penetrating as the years go by. Further along the trail, we are busy admiring the Immunity lamp of Jenner, when, gazing one century in advance, we behold on a high mountain-top of achievement the most glorious light of all, the Pasteur lamp of Bacteriology. Its rays, like those from the rising sun over the surface of a lake, point onward—ever broadening and far-reaching. The trail is now an illuminated highway—illuminated by the lamps of Robert Koch and Lister, Ronald Ross and Gorgas, Walter Reed and Klebs, Osler and hundreds of others—in fact, more lamps in the last fifty years of the trail than in two thousand years before. "And the men bulk big on the old trail, our own trail, the out trail. They're God's own guides on the long trail, the trail that is always new." Surely, we can look backward with satisfaction.

The time is well spent in reflecting on departed greatness. "Great men are like great mountains; they lift our thoughts above the ordinary levels of humanity and act as an inspiration to us." "He who will not look backward to his ancestors will not look forward to posterity," is a maxim enunciated by Burke and sanctioned by experience as applied to the practical concerns of life.

Our heritage is our most valuable asset. The tendency of today is for action, rather than reflection. This is more noticeable in the young man than

* Inaugural address as President California Medical Association, delivered at Oakland, April 28, 1926.

in the man of mature years. But with the years comes wisdom. "The years teach much which the days never knew." Reflection usually furnishes the inspiration for wise action. The recollection of burned fingers prevents a repetition of the injury. It is the experience of the past that governs our present action. The future we never reach, the present is fleeting and soon becomes the past, the past alone endures.

But we must not spend all our time in reflection. We must be up and doing. Movement is a law of life. Where we stand today in medicine is not so important as the direction in which we are moving. However, with such a noble heritage and lofty ideals for inspiration, and such wealth of experience to guide us, we will go forward lighting other lamps, pushing the trail further through the valleys and lighting the mountain-peaks, so that we may see how to eradicate cancer, tuberculosis, pneumonia, infantile paralysis, and many other diseases.

Mark Sullivan of New York, political prophet, editorial observer, and veteran newspaperman, speaking the other day before the Friday Morning Club in Los Angeles on the "Magnificent Achievements of the Past Quarter Century," gave first place to the work accomplished through medical science. To quote from the evening papers, he said: "The warfare against disease, as respecting the individual, is more outstanding than any affairs of the politicians. The lengthening of the span of human life, due to the inventions and applications of medical science, is the greatest achievement of the last quarter of a century." I am told that this statement brought forth hearty applause from part of the audience, while others wondered why the program committee permitted one holding such materal views the privileges of the platform. Evidently the dissenting group became busy in the afternoon, for some of the next morning papers, while devoting much space to his address, never mentioned what Mr. Sullivan considered entitled to first honors.

While we feel indebted to Mr. Sullivan for complimenting us so highly on our work of the last twenty-five years, we will venture the prophecy that we will not only keep first place, but that no other agency or force having to do with the advancement of civilization, will, in the next quarter of a century, be considered even a close competitor with medical science.

In the last fifty-five years the span of life has been increased fifteen years. Much of this has been due to the knowledge acquired in diseases of children, and treatment by modern methods, as well as preventive medicine in general. The good work done by the Tuberculosis Association deserves much credit. But we are just beginning to warm up. We possess the knowledge now to increase the span of life another fifteen years and are prepared to do it, if we but get the full co-operation of the public. But such co-operation will come only gradually. Light travels fast until it reaches the human mind. Education has ever lagged far behind knowledge.

It will be 230 years on the 14th of May since Edward Jenner discovered vaccine against smallpox. Its efficacy is not disputed by any physician of recognized scientific standing in the whole world today. There is no excuse for the prevalence of smallpox in any civilized community in this age. Yet, in one of our California cities in February, sixty-three lives were sacrificed to the moloch of ignorance. Out of this number not one had been vaccinated in the last eighteen years. The rays of light from the Jenner lamp have failed to penetrate many darkened minds and as a consequence the United States leads the world in smallpox; and among the states, California, the acknowledged leader in so many things, takes first place in this loathsome disease—a fact that is being widely published as a detriment to our material welfare and a reflection upon the intelligence of our citizens.

The death rate from tuberculosis has been cut in two in the past twenty years through the public taking heed of the advice given by the medical profession. We have the knowledge to banish typhoid fever, and it was practically eliminated from the army camps in the great war. Earlier than this, when twenty thousand of our soldiers went to the border, vaccinated against typhoid, only two contracted the disease, yet the number of cases and the deaths from this trouble prove that advantage is not taken of our information. In 1924, in a single locality in California there were 632 typhoid cases. In the same year there were 11,110 cases of diphtheria with 695 deaths. Toxin anti-toxin treatment would have prevented every one of these. New York State cut its diphtheria death rate in half in the past ten years by a campaign of immunization with toxin anti-toxin. California can do the same. The death rate from scarlet fever, tetanus, cerebrospinal meningitis, and many other diseases can be decreased 50 per cent by heeding proper advice.

The outlook for the control of disease in California, with all its sunshine, is not promising, owing to the very low standard of education required of those permitted to treat the sick. Hundreds using the term doctor (not M. D.) are unable to diagnose the very commonest affections—in fact, they claim that diagnosis is not necessary. Reports to the Board of Health are belated; the good results of quarantine are lost; and the contagion has often spread far and wide before it is recognized.

According to the American Society for the Control of Cancer, 100,000 people in the United States will die of cancer in the present year; one woman out of every eight and one man out of every thirteen over 40 years of age will succumb to the discase. It is estimated—and conservatively, I think—that this death rate could be lowered 35 per cent in the next fifteen years, if people took advantage of the knowledge we now possess. How can this be done? Simply by having a thorough physical examination by the family physician once a year; detecting the trouble in its incipiency, when eradication is possible.

Cardio-vascular and renal diseases, after the fourth decade, go on undiminished in their yearly death toll. If these conditions were detected early, the span of life could be greatly advanced. We have the information, but fail to get it to those in need with sufficient impressiveness. Thorough yearly examinations by the family physician will furnish the opportunity to give the needed advice. Too many

people endeavor to increase their length of days by treating themselves, taking all sorts of nostrums or following food faddists.

Our slogan should be a thorough yearly examination—an inventory of your health on your birthday. The field of preventive medicine should be more definitely a part of our workshop. Urge people to seek advice when well, and demonstrate that an ounce of prevention is worth a pound of cure; that anticipating trouble in time to avoid loss is cheaper and better and a greater life-saver than the old way of waiting until a disease has fastened its tentacles about you before seeking aid.

In this work the medical profession must do its part. The physician should be equipped to make the examinations thorough and reliable; for the people must be protected against incompetency. He must keep informed of the latest in medical discovery, with mind open and prepared to recognize truth, for, as Pasteur observes, "In the field of observation, chance favors only the mind that is prepared." One of the best ways to keep in touch and in step with medical progress is by attending and, when possible, taking an active part in the county society's work. Some physicians rarely attend except when they get into trouble and desire assistance. A Scotch minister said to his congregation: "The funeral services of Donald McGregor will be conducted in this church next Thursday at half-past two in the afternoon. I hope you will a' be here. I will be here and will preach a funeral sermon, and McGregor himself will be here, the first time in fourteen years."

The county unit can be of great assistance to the doctor by having part of the county society program consist of papers, demonstrations, and discussions on health-examination work. Every examination should have its findings recorded on a standard form.

But the duties of a county society are many, and they are not fulfilled when devoted exclusively to the education and good of its own members. It is largely responsible for the health of the community, and should be the central and directing force behind all health work in that section. It should call into its councils not only the representatives of boards of health of the state, county, and city, but dentists, nurses, and all agencies engaged in public health activities.

When we fully acknowledge our obligations to society and make an earnest endeavor to liquidate the debt, showing that our actions are in keeping with our lofty ideals, there will be no difficulty in getting full co-operation of the public.

The county society has obligations, too, outside of its own immediate neighborhood. Sister county societies covering large areas often need help. Have they good, properly equipped hospitals? If not, a study should be made and assistance given in establishing such. In these days of rapid transit one bacteriologist with a good technician could take care of the work in several such hospitals.

There is now a great cry for physicians for rural communities. I am not one who advocates the lowering of medical standards to supply such needs. The rural population is entitled to the best that scientific medicine can give just as much as the urban. At the present time the physician, trained in scientific methods, finds himself greatly handicapped in his work in many rural communities owing to the lack of properly equipped hospitals. He feels that he is unable to make use of his knowledge; that he is likely to grow stale and rusty, if he remains in such environment; he wishes to make progress in his life-work and goes to a place where he can obtain the facilities to satisfy his desires.

Union hospitals can be established just as well as union high schools, and when such are assured and conducted upon right lines there will be little difficulty in supplying the demand for educated physicians in rural districts.

In assisting the sick man out of his troubles the physician should ever remember that the man has a mind, a personality, and a soul, as well as a body. By establishing his peace of mind, bolstering up his courage, and strengthening his faith in his present and further usefulness, a big advantage is gained in the treatment of any physical illness. We are not doing our full duty when we serve one at the expense of the other or attend to one and neglect the other. The cultists often get nearer to the real man by recognizing his complex nature than do many physicians.

Quite recently a prominent business man said to me: "I know that the majority of doctors have high and honest motives and are doing splendid, unselfish work for the control of disease and for the welfare of humanity, but there are many who, by their actions and words, inspire in a certain portion of the public a lack of confidence in the profession as a whole. I know of many instances where doctors have taken advantage of the patient's financial position and rendered bills for services so much out of proportion to the skill required and the time occupied that it seemed nothing other than a deliberate hold-up." Some physicians, like men in other callings, are worth more than others. Prices should be in proportion to the time given and the skill required and employed. In rendering bills the patient's financial condition should be considered and allowance made for all in need of such. This is usually done. In my opinion a doctor is entitled to his full fee where a patient is well able to pay, but he is not justified in demanding excessive amounts simply because his patient happens to be a millionaire.

The literature of today—especially the sensational novel type—and part of the modern stage tend to case reflections on the work and character of the physician and throw out in bold relief his sins of omission and commission. Fortunately, the vast majority of people do not get their impressions of the physician from the reading of sensational novels, which too often place the medical man on a low plane of civilization; nor do they attach much value to the cynical remarks of men like Bernard Shaw. Their estimation of the physician has been and still is high. It has been obtained by direct contact in the presence of sickness and suffering and death, and it will keep that elevated position just so long as physicians remain true to their ideals.

If you desire to hear the music of the Chicago Grand Opera Company on your radio, you must

keep "tuning in" until you get the Chicago wave length. And unless you get the proper adjustment, you will never hear anything except a lot of static—discordant notes that make life unpleasant. However, the man with patience and persistence and a desire for the best in life tries other adjustments and finally "tunes in." Suddenly, he seems transported to another world. Swelling strains of ennobling music pour forth, filling his heart and soul with gladness. What caused so great a change? Simply a slight adjustment.

The true physician looks upon his profession as an honor. He takes pride and joy in his work. He feels that he is contributing to the welfare and happiness of man, that he is helping to blaze and brighten a trail through a world of profound mysteries, making roads and building bridges through the swamps and morasses so that those who follow may pass safely over. His chief concern in life is to contribute to the betterment of the human race; to the relief of suffering, making life a bit sweeter and easier for others. He cheerfully joins with his colleagues in every line that tends to human progress. He is a pusher and lifter, not a leaner and trailer. He gives of his time and energy, and in the giving is the getter in a spiritual sense. He cherishes the ideals and traditions of his profession. To him such an heritage is a most valuable asset. The art and science in his work are never divorced, but go hand in hand, with the art ever uppermost. By kind words and deeds and sympathy and unselfishness he keeps ever in tune with humanity's wave length. He looks backward with satisfaction and forward without apprehension. And when the end draws near his pillow is made softer by the knowledge that he has the love of his patients, the respect and esteem of his colleagues, and that his work in this life has produced dividends, deposited from time to time deep down in the inner chamber of his soul, the only dividends of value—the only dividends that will be honored by Time or Eternity.

There is another type of physician, not a true physician, who is in the profession for what he can get out of it, his interest being purely selfish. The ideals and traditions of his forefathers never enter his mind: he has no use for the past; it is gone; and the future, he claims, has done nothing for him. He takes no interest in the humanitarian work of his confrères, unless as an objector. He rarely attends medical meetings or engages in any work toward the betterment of his profession. Such things bore him. He uses the term "doctor" as a commercial trademark or a cloak of social or scientific distinction. He attends to the call of suffering humanity at so much per, in dollars. He must be assured of his pay before he heeds the call. The medical profession to him is simply a commercial enterprise. He values his work wholly from a monetary standpoint, and fashions his bill, not from the ill or the pill or the skill or his time, but on the patient's ability to pay. He lives smug and independent, secure from the privations of want, yet dies, in time, from fatty degeneration of the soul.

And what is the difference between these two physicians? The one keeps ever in tune with humanity's wave length; the other is constantly out of tune, and gets nothing but the jarring and screeching of static.

Humanity's wave length is the physician's wave length. Its ideals and its hopes, its aspirations and its prayers, are all one, and you can tune in quickly and easily by simply adopting the Golden Rule: "Do unto others as you would have them do unto you."

I look forward without apprehension, because I have complete confidence and faith that the great majority of men and women in our profession will keep in tune; will press onward and upward, lighting new lamps along "our own trail, the out trail." So long as there is life there will be sickness and suffering and need for the educated physician. May the heritage which we received from the men who "bulk big on the old trail" be cherished and enriched while in our possession, and passed on to those who come after us "unimpaired in dignity, honor, and usefulness!"

419 Pacific Mutual Building.

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## NOW FOR 1927

Just as we go to press, preliminary news reports come from the C. M. A. session in Oakland that:

Percy T. Phillips, Santa Cruz, was selected as president-elect.

Robert V. Day, Los Angeles, vice-president.

Other officers are:

William T. McArthur, Los Angeles, president.

Emma W. Pope, San Francisco, secretary.

The councilors are:

Lyell C. Kinney, San Diego, First District.

W. H. Kiger, Los Angeles, Second District.

William H. Bingaman, Salinas, Third District.

Fred R. DeLappe, Modesto, Fourth District.

John Hunt Shephard, San Jose, Fifth District.

W. B. Coffey, San Francisco, Sixth District.

Oliver D. Hamlin, Oakland, Seventh District.

James H. Parkinson, Sacramento, Eighth District.

H. S. Rogers, Petaluma, Ninth District.

Robert Peers, Colfax, At Large.

Joseph Catton, San Francisco, At Large.

George H. Kress, Los Angeles, At Large.

Harlan Shoemaker, Los Angeles, At Large.

Morton R. Gibbons, San Francisco, At Large.

C. L. Curtiss, Redlands, At Large.

The next session will be held at the Los Angeles Biltmore at a date to be fixed by the Council.

# EFFECTS OF INSULIN TREATMENT ON EXPERIMENTAL DIABETES OF DOGS

By E. F. F. Copp *
(From the Scripps Metabolic Clinic)

*Doctor John R. Williams, Rochester, New York, believes that "Dr. Copp's work is timely and extremely important. It affords experimental proof for the clinical observation of a number of workers. It should be extended to throw light on the problem of the source and regeneration of the islets.*

*An editorial councilor, in endorsing this discourse for acceptance by California and Western Medicine, says: "It appears to me a worthy presentation of an interesting aspect of diabetes, well presented and, I believe, well sponsored, as coming from the new Scripps Metabolic Clinic."*

*Doctor F. G. Banting, University of Toronto, closes his discussion of Doctor Copp's studies by saying: "The fact that Dr. Copp has been able to show the complete disappearance of hydropic degeneration of the beta cells of the islets of Langerhans in partially depancreatized dogs by insulin treatment is of great importance, because it provides experimental evidence which supports the clinical findings that, in order that there be a gain in tolerance, the islets of Langerhans must be relieved of all strain."*

*Doctor Frederick M. Allen, Morristown, New Jersey, states in his discussion that "the ability to produce specific island changes at will by dietary overstrain, and to arrest these changes by relieving the overstrain, is so significant that these simple experiments should be tried by those pathologists who still doubt the island theory of diabetes. The occurrence of this same degenerative process in experimental animals, and in human patients likewise, ranks among the important proofs of the identity of experimental and clinical diabetes."*

*Doctor Lovell Langstroth, San Francisco, considers that "Dr. Copp brings us experimental proof of the importance of maintaining a normal blood sugar in diabetic dogs. This fits in exactly with the clinical facts, and there is every reason to suppose that his results are directly applicable to humans."*—Editor.

THE year 1889 probably marked the beginning of the study of experimental diabetes of animals. In that year, Mering and Minkowski [1] discovered, more or less by chance, that total pancreatectomy of dogs was followed by a severe and uncontrollable form of diabetes. This fact established a definite relationship between diabetes and the pancreas. Minkowski then tried, without success, to treat diabetes by feeding whole pancreas.

Until that time no great suspicion existed that the islands of the pancreas, described by and named after Langerhans in 1869, played any particular role in the metabolism of carbohydrates. Lewaschew [2] believed that the islands were simply modified acinar cells.

In 1884 Arnozan and Vaillard [3] noticed, after ligation of the pancreatic ducts in rabbits, that the acinar cells degenerated and were replaced by fibrous tissue. Schultze, in 1900, showed that after ligation of the ducts or in grafts of the gland the islands of Langerhans did not undergo destruction. Sscobolew,[4] in 1902, also noticed that there was atrophy of the insular tissue after ligation of the pancreatic ducts.

In 1901 Weichselbaum and Stangl [5] first observed and clearly described the so-called hydropic degeneration of the islands of Langerhans in human cases of diabetes.

In 1901 Opie [6] claimed that there was a direct relationship between the pancreatic islands and human diabetes, and noticed hydropic degeneration of the Beta cells of the islands.

In 1908 Zuelzer [7] prepared an alcoholic extract of the pancreas of recently fed animals which, on intravenous injection, was capable of greatly diminishing, in several animals, the glycosuria following pancreatectomy. The pancreatic veins of those animals from which the extract was prepared were ligated for an hour before killing them, in order to attempt to accumulate the hormone in the gland. Forschbach [8] confirmed Zuelzer's finding on diabetic dogs, but as the extracts contained a large amount of protein he considered the results were due to a febrile reaction following the injection of the antidiabetic hormone. So the use of their extract was abandoned.

MacCallum [9] ligated the ducts of the tail of the pancreas, and in a second operation several months later removed the rest of the pancreas and found that only a mild condition of diabetes followed. In a third operation, he removed the degenerated tail of the pancreas, and found that total diabetes resulted. This proved that the islands of Langerhans alone prevented the onset of diabetes, as the remnant removed was practically all islands. Unfortunately, an extract of this tissue was not made.

In 1913 Allen [10] first demonstrated experimentally on dogs that the production of diabetes was followed by typical pathological changes in the pancreas similar to those seen in the human. It was he who first noticed the hydropic degeneration of the Beta cells of the islands of Langerhans in dogs.

Knowlton and Starling [11] prepared extracts of the pancreas in weak acid solution, and found that a diabetic heart, when perfused outside the body, utilized less sugar than that of a normal heart similarly treated. Starling later believed that a mistake had been made somewhere, and abandoned further work along similar lines. Murlin [12] came very close to developing a potent pancreatic hormone, but made his extract alkaline instead of acid.

This long series of attempts to isolate the antidiabetic hormone was followed by the announcement of Banting's [13] discovery in 1921. He conceived the idea of preparing insulin in November, 1920, while working as assistant in physiology at the Western University at London, Canada, as a result of reading an article by Baron [14] published in Surgery, Gynecology and Obstetrics. Banting and Best ligated the pancreatic ducts of dogs for ten weeks, and then from the remnant, largely composed of island tissue, prepared a potent extract by thinly slicing and pounding up this tissue in chilled Ringer's solution.

By May, 1922, Best had so refined the extract that the first clinic to use insulin was started in the Christie Street Military Hospital, Toronto. Before that time, subcutaneous injections of insulin often

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*E. F. F. Copp (La Jolla, California). M.B. from University of Toronto, 1923. Associated with Banting in early experiments with insulin; Christie Street Military Hospital, Toronto; with F. M. Allen one year. Practice limited to research and diseases of metabolism. Hospital connections: Scripps Metabolic Clinic. Appointments: Resident physician Scripps Metabolic Clinic. Publications: "Restoration of Hydropically Degenerated Cells of the Pancreatic Islands in Dogs Under Insulin Treatment" (Journal of Metabolic Research, Vol. 4, Nos. 3-4).

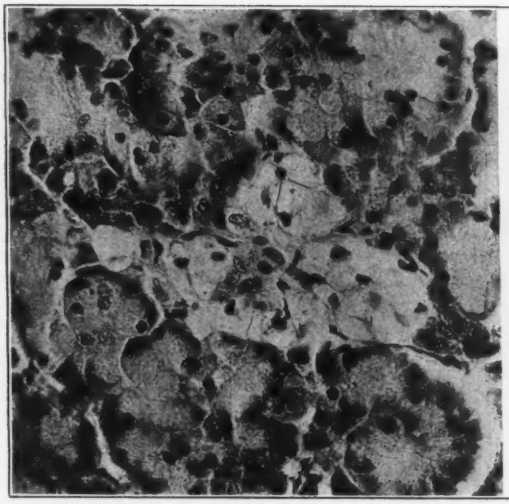

Figure 1

Dog. Advanced hydropic degeneration. Size of island evidently diminished by loss of cells. Contrast between vacuolated beta cells and surviving alpha cells under routine stain (eosin-methylene blue). The alpha cells appear in the center of the island.

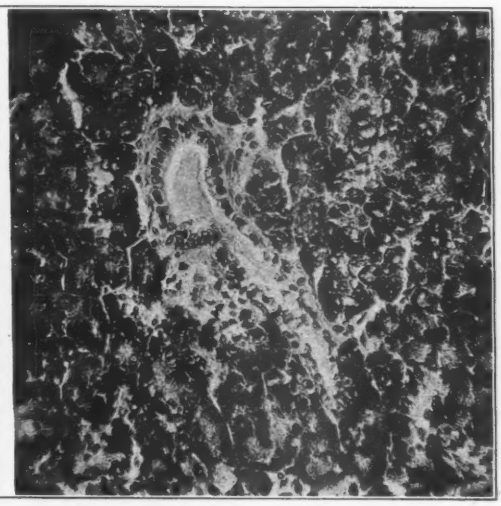

Figure 2

Dog. Advanced diabetes. A small duct opens into a large one. Some cells are vacuolated, others are not.

caused localized abscesses. Since that time very many papers have appeared regarding insulin treatment, and the general consensus of opinion at the present time is that insulin plus diet gives hope that even the severest case of diabetes may live comfortably and indefinitely.

The object of the present paper is to discover what changes are taking place in the pancreas, especially the islands, as a result of insulin treatment. Dogs, as a rule, were used in these experiments. The plan adopted was first to produce diabetes in dogs, as described by Allen.[15]

In this series of experiments some thirty animals were used, and dogs were found to be the best suited for this work. Cats, sheep, and goats did not stand the operations well, and it was almost impossible to produce diabetes in hogs, regardless of the amount of pancreatic tissue removed.

Each dog was submitted to several operations. At the first operation from eight-ninths to twelve-thirteenths of the total amount of pancreatic tissue was removed, and the small remnant of the gland was left around the major or minor duct. A specimen was saved for microscopic examination. The dog was then placed upon a high carbohydrate diet for approximately one month, during which time the animal was actively diabetic.

At the second operation, from twenty-six to thirty days later, a specimen of the gland was removed for microscopic examination. These sections showed that the alpha and gamma cells of the pancreatic islands remained in good condition, but that the beta cells showed the presence of so-called hydropic degeneration (Figure 1). The acinar cells remained perfectly normal. Vacuolation of some of the cells lining the ducts was also seen at times (Figure 2). At the close of the second operation, treatment with insulin was immediately started, and subcutaneous injections were usually made three to four times a day. These injections were as evenly distributed over the twenty-four hours as possible. Each dog was placed on a carefully weighed diet, usually being fed three times a day on lean meat.

A strictly normal level of blood sugar was aimed at and maintained during the whole length of this period. This program was kept up for from twenty-four hours to three weeks, and many specimens of pancreas from different animals were removed at varying intervals.

Allen [15] had previously tried to learn whether the hydropic degeneration of the beta cells of the islands was reversible or not, but was unable to arrive at any definite conclusion, because he stated "if pancreatic tissue is removed at the desired stage of maximal vacuolation, either the diabetes is already hopeless or the slight trauma of the operation makes it so, for it is impossible to stop the glycosuria thereafter, and with continued symptoms rapid destruction of islands occurs."

## RESULTS

Complete disappearance of hydropic degeneration of the beta cells of the islands of Langerhans and the restoration of the islands to normal was found after a period of fourteen days of insulin treatment (Figures 3 and 4). About the ninth day vacuolation began to subside, but before this period very little recovery could be noticed.

Careless control of the diabetes showed that the functional overstrain on the islands had not been relieved, as they still showed hydropic degeneration. We have reason to believe that hyperglycemia, without sugar in the urine, will prevent the clearing up of the pathological picture of vacuolation of island cells.

Lack of careful control of the symptoms of diabetes in dogs is rapidly followed by acidosis. It is interesting to note that before insulin treatment of diabetes of dogs, it was almost impossible to produce a severe acidosis in these animals. Now it is com-

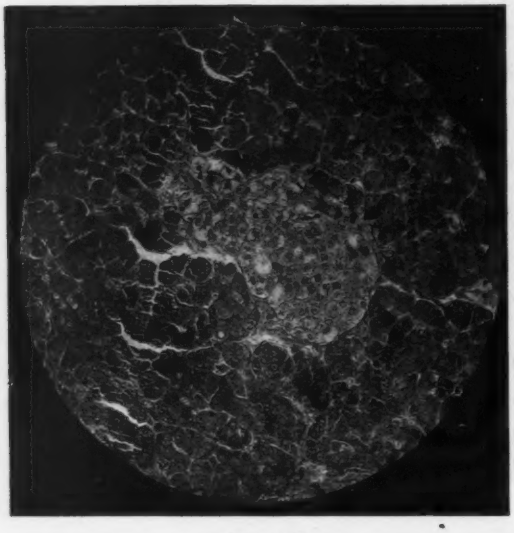

Figure 3

Dog 148. Pancreas showing hydropic degeneration of the beta cells after twenty-eight days of persistent glycosuria.

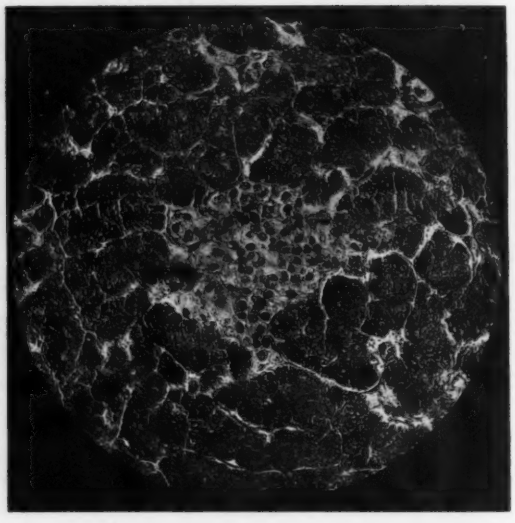

Figure 4

Dog 148 after fourteen days of insulin treatment, showing the restoration of beta cells and the return to normal of the island.

paratively easily done by suddenly stopping administration of insulin, but still keeping on with the same diet.

Severely diabetic dogs can be kept alive indefinitely by means of a careful diet plus insulin.

The glucose tolerance of diabetic dogs under insulin treatments will improve, often remarkably. We have been unable to definitely prove the formation of new islands, but vacuolation observed occasionally in centro-acinar cells and in the small ducts or cell cords seems to suggest an intimate relationship between these cells and the beta cells of the islands. We expect to later report on this relationship more definitely. The diabetic dog thrives best when strictly normal blood sugars are maintained at all times.

## CO-RELATION TO THE HUMAN DIABETIC

The pathological changes of the pancreas as a result of diabetes, whether seen in the human or the dog, are almost identical. In both cases the beta cells of the islands become vacuolated as a result of functional overstrain. We have seen that the pathological changes of the pancreas of diabetic dogs return under careless control, and we believe the same occurs in the human.

It is, therefore, important to realize that only by careful control and by the maintenance of strictly normal blood sugars can we expect to have the already damaged organ in diabetes functioning at its best. Occasional presence of sugar in the urine means the probability that some of the beta cells of the islands are becoming vacuolated, and if repeated may mean the destruction of island tissue, with a further irreparable loss in food tolerance.

Just what is happening in the patient's pancreas when under good control is an interesting speculation, but when under poor control we most certainly know that specific pathological changes are taking place detrimental to the patient.

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## DISCUSSION

F. G. BANTING, M. D. (University of Toronto, Canada)—In reading Dr. Copp's paper one feels regret that he has not reported upon this important work in greater detail. There is now little doubt that glucose directly stimulates the islets of Langerhans to produce insulin. The histological picture described in this paper provides evidence from the pathological standpoint. It has been found from a physiological standpoint that the secretion of insulin does not necessarily depend upon the nerve supply, since

when a portion of pancreas is transplanted under the skin and depleted of its nerve supply, there is no material alteration in the response to injected glucose. Furthermore, when the percentage of sugar in the blood is suddenly increased the islet cells are stimulated to produce an adequate amount of insulin to reduce the blood sugar to its normal level. From a clinical viewpoint, it has been found that, in cases of diabetes mellitus which have been maintained sugar-free and with a normal blood sugar, there is no decrease in tolerance, and in nearly all cases, particularly in children, there has been a considerable increase in tolerance. On the other hand, in cases which have continually shown glycosuria there is no gain in tolerance, and usually there is lowering of tolerance.

The fact that Dr. Copp has been able to show the complete disappearance of hydropic degeneration of the beta cells of the islets of Langerhans in partially depancreatized dogs by insulin treatment is of great importance, because it provides experimental evidence which supports the clinical findings that, in order that there be a gain in tolerance, the islets of Langerhans must be relieved of all strain.

FREDERICK M. ALLEN, M. D. (Physiatric Institute, Morristown, New Jersey)—The importance of the study of pancreatic pathology cannot be overestimated. The hydropic degeneration of island cells can be easily and clearly demonstrated. It is biologically unique as an example of anatomic degeneration, due to overstrain of an endocrine function. It is one of the strongest links in the proof that the anti-diabetic function of the pancreas actually resides in the islands. Experiments like those of MacCallum are not decisive, because the ligated pancreas remnant of the dog never consists exclusively of island tissue. A strong support is furnished by Macleod's observations in fish, that insulin is obtainable from the portions of the pancreas which contain islands, and not from the portions containing no islands. But the ability to produce specific island changes at will by dietary overstrain, and to arrest these changes by relieving the overstrain, is so significant that these simple experiments should be tried by those pathologists who still doubt the island theory of diabetes.

The occurrence of this same degenerative process in experimental animals and in human patients likewise ranks among the important proofs of the identity of experimental and clinical diabetes. It has several fundamental therapeutic applications. It furnishes the anatomical explanation of the progressiveness of diabetes. One of the traditional errors that was hardest to overthrow was the belief in the inherent progressiveness of diabetes. There is now agreement of experimental and clinical proof that diabetes is progressive when the island function is overtaxed, and is not progressive when that function is spared. The means of overtaxing the function are also significant. Not only carbohydrate, but also the total calories and body weight influence the island function in both dogs and patients. It is unfortunate that it should still be necessary to repeat this very simple and easily demonstrated fact. Increased calories in the form of fat increase the tendency to glycosuria and acidosis, and increase the insulin requirement in both patients and animals. The pernicious fad of high fat diets rests only upon inconclusive observations that some patients can be freed from glycosuria and acidosis, in spite of such diets. Accurate comparisons of low and high fat diets have never failed to confirm this fact, which, besides its practical importance, has a deep theoretical significance with reference to the role of insulin in the bodily chemistry.

LOVELL LANGSTROTH, M. D. (490 Post Street, San Francisco)—Dr. Copp brings us experimental proof of the importance of maintaining a normal blood sugar in diabetic dogs. Diets which throw a functional overstrain on the islands lower the tolerance of the animal apparently by causing degeneration of the beta cells. Diets which maintain a normal blood-sugar level often result in a marked gain in tolerance, and this we now know is associated with disappearance of the degenerative changes. This fits in exactly with the clinical facts, and there is every reason to suppose that his results are directly applicable to humans.

In clinical diabetes we see different responses to the same treatment. In two properly treated cases of the same severity one will show a marked increase in tolerance; the other none. This appears to be due to some inherent difference in the cells of the two individuals, to an ability in one to "come back" under rest, in other words. This difference in regenerative power brings up some interesting problems. Is this the same tissue quality which makes one individual so resistant to diabetes that his tolerance falls very slowly over the course of years, while another offers no barrier to its progress and soon becomes a total diabetic? If we may speak of diabetes as a degenerative disease, is the resistance to this degeneration largely a question of inheritance as the occurrence of severe infantile diabetes would certainly make it appear? And if we inherit poor resistance to such degeneration, what are the factors in the lives of parents which withhold this essential quality from the offspring? In this connection the new experimental work on food and sunlight in animals comes to mind at once. One wonders whether the second or third generation of rats fed on suboptimal diets and showing diminution in size, vigor, and fertility, might not be made to show some such marked loss of resistance to degeneration as is evidenced in a diabetic infant.

These problems are at the root of our understanding not only of diabetes, but of all degenerative diseases and such interesting experimental work, as this gives us hope of their solution in the near future.

JOHN R. WILLIAMS, M. D. (388 Monroe Avenue, Rochester, New York)—That insulin may have some regenerative or restorative action on the pancreas has been the hope of every worker in diabetes. Clinical evidence is slowly accumulating which suggests that such action is taking place. I have a series of both children and adults who were carefully controlled and whose limitations were established before the advent of insulin. The increase of pancreatic efficiency is more evident in adults than in children, although general clinical improvement is striking in both groups.

The value of maintaining the body chemistry as nearly normal as possible in diabetes can scarcely be questioned. The difficulty of so doing in severe cases is another matter. If it has to be done at the cost of marked undernutrition, it is an open question. The cases in my series who are permitted to maintain an approximately normal nutrition not only feel better, but appear clinically improved, and show no evidence of breaking down. Some of these cases have carried high blood sugars and urine sugar, and in other ways have violated the conventional beliefs as to the importance of diabetic standards. It should always be borne in mind that insulin activity in the body and glucose metabolism rarely synchronize; that the severe and uncontrolled diabetic under insulin therapy during the day may have periods of hypoglycemia as well as hyperglycemia. These alternating states may not be without benefit to the severe patient, particularly if a good state of nutrition is maintained. In some of my severe cases there is evidence to support this possibility.

My clinical experience is not in accord with that of Dr. Allen, if I understand him correctly. Without insulin, on the plan of undernutrition alone, my cases were greatly benefited for a considerable period of time; eventually they failed, and although the expectancy of life was extended as much as 100 per cent, the disease progressed and the patient finally succumbed either to inanition or the diabetes. In have noticed no such regression since the use of insulin.

Dr. Copp's work is timely and extremely important. It affords experimental proof for the clinical observation of a number of workers. It should be extended to throw light on the problem of the source and regeneration of the islets. The very great desirability of careful autopsy study of all insulin-treated diabetics who may succumb either to diabetes or other causes must be evident in this connection. The Scripps Metabolic Clinic is to be congratulated on the character of its research.

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What a paradox that the very man to whom the world looks for advice as to proper food, rest and exercise, must eat cold grub grabbed on the wing, sleep hanging on a hook by the telephone, and depend for his exercise on cranking the flivver.—Medical Pocket Quarterly.

# TREATMENT OF ACUTE PERITONITIS

*By* ALANSON WEEKS AND LE ROY BROOKS *

DISCUSSION *by Walter W. Boardman, San Francisco; Charles Miner Cooper, San Francisco; E. C. Fleischner, San Francisco.*

THE diagnosis of acute, infectious, spreading peritonitis is usually verified at operation. The operative treatment is more or less standardized, but it should be emphasized again that the least the surgeon does the better; especially should he handle the tissues gently. His procedure necessarily varies with the individual case.

The question of drainage occupies a more important position in the current literature. Just when to drain and when not to drain is sometimes difficult to decide, and there are many factors which contribute to the final judgment, such as operative trauma, the amount of inflammatory tissue remaining, the location of the lesion, the general condition of the patient, etc. One would judge from the publications that drainage is used less often by many men than formerly. However, when in doubt, a drain does little or no harm and establishes a channel through which nature is able to throw off much of the toxin which otherwise might have to be absorbed. The drain can be removed within two or three days. Should a secondary abscess develop, it will, if left alone, practically always break through this channel. If not, one can find the abscess by inserting a curved hemostat with great gentleness, allowing the end to find its way through the drainage tract and then opening the forceps. In nine times out of ten pus will escape. In our work it has never been necessary to reopen the abdomen for such an abscess, so that the unhappy experience of opening an abscess into the clean peritoneal cavity has not been observed.

The first thought in the treatment of peritonitis should be that the bowel must be kept at rest. Usually it is paralyzed, but laboratory workers have shown very conclusively the effect on peristalsis when anything is taken into the stomach; and, therefore, because of the possibility of starting peristalsis, and also because of the greater possibility that the stomach will refuse it, nothing should be given by mouth.

Doctor J. Wilson Shiels said, many years ago, that a hurt peritoneum should be splinted just as much as a broken leg.

Wet dressings, applied directly to the wound, promote better drainage. Large, wet, hot compresses applied to the whole abdomen, changed often, and kept as hot as the skin will bear, afford a patient comfort, and from a clinical standpoint do seem to have a definite value in this condition.

The abdominal distention which often occurs, due to paralysis of the intestine, is very distressing to both the patient and the doctor. One is apt to become panicky and resort to pituitrin, eserine, irritating enemas, etc., in an effort to relieve the pressure. Sometimes, with these measures one can get rid of considerable flatus, but within a few hours the distention is as great, or greater than before, and much more difficult to relieve. The irritation of the already sick intestine causes a more complete paralysis than would have occurred had it been left alone. When simple tap water enemas or tap water colon irrigations do not relieve the distention, it is futile and harmful in the presence of peritonitis to use more drastic measures.

It is essential to give these patients enough morphine for rest, but it is not wise to give large doses repeated often (as practiced by some) to keep the patient in a semi-conscious state or to reduce the respirations to ten or twelve per minute. This amount of morphine has too paralyzing an effect upon the bowel and reduces oxidative processes, which allows one to reason fairly that the patient's resistance would be lowered. The other extreme, not giving the patient rest by a sufficient amount of sedative, is probably as bad, as the patient exhausts himself tossing about from pain.

In the absence of abdominal distention, or spreading peritonitis, we do not allow the patient to have anything by mouth. When the upper intestinal content appears in the stomach, it should be removed by gastric lavage every three or four hours, or the stomach should be continuously drained with a duodenal tube strapped to the chin with a piece of adhesive. The patient can then drink all the water desired and automatically wash the stomach. The lavage should be given early and often, and careful observation will enable one to determine that the stomach should be washed before the patient begins to vomit the dark material. Generally speaking, this is not done early or often enough.

The funnel drip, 5 per cent soda bicarbonate and 5 per cent glucose, is given to all these patients as a routine. When the drip is properly operated, the patient will absorb considerable fluid, alkali and nourishment through the bowel, and it is a simple thing for both patient and nurse, by means of colon irrigations repeated often, to remove the flatus that works its way down to the large bowel. Often, however, the patient will not absorb enough fluid from the rectum to give the best chance of recovery. To such patients we give 1500 to 2000 cc. normal salt solution beneath the fascia lata of the thighs daily, and 1000 cc. 10 per cent glucose intravenously once or twice a day. This method of furnishing fluids and fuel has been used for the last five years, and no case of general peritonitis has been lost in this time among many patients whom we believe would certainly have died without the fluids, salt, and sugar.

These patients suffer from the poison that they absorb from infection, from the acid products of

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faulty fat metabolism due to lack of sufficient carbohydrates, from by-products from excessive breaking down of body proteins in an effort to furnish the carbohydrates, and to lack of oxygen carried to the tissues because of increased viscocity of the blood due to loss of body fluids. When there is much vomiting or necessity for having the stomach washed often, it is not uncommon for an alkalosis to develop, which, if not properly combated, will go on to tetany and death. The proper treatment is large quantities of sodium chloride, or, what we have found equally as effective and more prompt in action, 5 per cent calcium chloride, 50 per cent cc. of a 5 per cent solution is given together with 1000 cc. 10 per cent glucose intravenously and 1500 to 2000 cc. salt solution injected into the muscles within a few hours, omitting, of course, at the same time the bicarbonate of soda from the rectal drip.

If the condition becomes critical and acidosis evident, we give 10 per cent glucose solution, 2000 to 4000 cc. daily, with enough insulin to burn the excessive amount of sugar, some of which otherwise would be excreted.

Mann and his co-workers recently established the fact that dogs, after the removal of the liver, developed a definite chain of symptoms, consisting of muscle weakness, loss of reflexes, return and exaggeration of reflexes, muscle-twitching, jaundice, coma and general convulsions, in one of which the animal would die within two hours after the first signs of muscle weakness. There was a definite relation between the blood-sugar level and these symptoms. The symptoms began when the sugar content was .06 to .04, and the dog died when it reached .03. Accompanying this reduction of blood sugar, the glycogen content of the liver and voluntary muscles was reduced to 50 per cent. The symptoms could be relieved by injecting intravenously .25 to .5 grams of glucose per kilogram body weight. Within thirty seconds after the injection, the dog would stand, walk, respond to call, wag its tail, drink water, etc. These beneficial results were specific for glucose or substances that yield glucose; and after the injection, when the blood sugar again began to fall, the symptoms would reappear in the order as given, and could be relieved by further injections of glucose.

Finally, a second group of symptoms developed, consisting of restlessness, ataxia, loss of sight and hearing, coma, and the dog died quietly. Glucose injection was without beneficial result, as far as this last group of symptoms was concerned.

The first chain of symptoms could be prevented if the blood sugar were kept to normal level by injections of glucose, but the second group of symptoms develop from eight to twenty-four hours after the removal of the liver, and the animals died quietly. The dogs formed no further appreciable amount of urea, and possibly the second group of symptoms was due to the disturbances in the protein metabolism. They all developed definite jaundice, and the pigment in the urine, in the blood plasma and in the tissues, gave all the tests for bilirubin, showing that this substance can be formed without the liver.

There is a definite similarity between the symptoms developed by these dogs and those developed by starved, toxic patients. Both are restless, jaundiced, mentally deranged, have twitching and go into coma, and both are relieved by glucose.

It will be evident from this report that we have had a large number of patients with general peritonitis who were unable to take any fluids by stomach and very little by bowel, and therefore practically no nourishment; who have been kept alive (some as long as two weeks) until the body was able to overcome the infection and peristalsis had started normally again.

We are not referring to the ordinary type of peritonitis, localized and short in its seriousness, but to patients often comatose, such as were formerly always lost.

We owe a great debt of gratitude, and as clinicians we should more often admit it to the patient laboratory worker who has so beautifully shown how necessary it is to keep up the body fluids that the blood may carry oxygen; how necessary it is to give glucose that the liver shall not be completely robbed of its glycogen; how necessary it is to keep up the chlorides by giving either sodium or calcium chlorides; and also for his work in demonstrating the necessity of keeping things out of the stomach that the bowel may rest in the presence of inflammation.

A few histories of patients are given as types:

Mrs. M. B. This patient was 25 years of age. She had typical, old, long-standing, large, double pus tubes.

At operation, both tubes were found to be large and full of old pus. These were removed.

At this time there was considerable discussion concerning the safety in closing this type of case. The wound was finally closed without drainage, but the subsequent history showed that, under similar circumstances, this procedure should never be repeated.

Five days after the operation, the patient developed spreading peritonitis, and the upper intestinal contents had to be washed constantly from the stomach. The wound, of course, was open, with a free discharge of pus.

On the seventh day she became stuporous and was in coma a great part of the time. She was given 1000 cc. normal salt solution subcutaneously daily, and an equal amount of 10 per cent glucose intravenously each morning. With this treatment she showed improvement as manifested by her pulse, facial expression, and mental condition. She had a definite tinge of jaundice to the skin and the whites of her eyes. Her pulse varied from 110 to 160, and her temperature from 101 to 104. The abdominal distention was tremendous, and little gas could be removed by irrigations or enemas. The stomach was washed three or four times a day.

The patient was in coma and many of the treatments were given without arousing her, and when she recovered she had no knowledge that they had been given.

From the tenth to the fourteenth day post-operative, she slowly but definitely improved. She was given 1000 cc. 10 per cent glucose daily and 1000 cc. normal salt solution daily. After the start of peristalsis, it was no longer necessary to wash the stomach, and the patient gradually took fluids and soft food by mouth after the peristalsis began to go through normally.

During these stormy weeks of keeping her alive with glucose and normal salt solution, when she was unable to take anything by mouth or bowel, pus drained freely from the abdominal wound. Large, hot compresses were applied to the whole abdomen throughout this bad time. Five per cent glucose and 5 per cent soda bicarbonate solution was given by the funnel method by rectum whenever possible, but because of the mental state of the patient, and because of the constant irrigations to relieve the distension, very little absorption could be counted upon. After the first two weeks, her convalescence was

uneventful, except for prolonged drainage from the abdominal wound.

The patient was well when she left the hospital in March, 1921. She had entered the hospital for this simple operation in December, 1920.

M. F. The patient, a little girl 10 years old, was seen on August 6, 1925, in consultation with Dr. E. C. Fleischner. She had two small boils on the lower third of the left leg and an infection of the vagina, with a discharge. She had had the vaginal discharge for about a week. It was yellowish and had a foul odor. Her brother and father had just recovered from a number of boils, the first of which the father had following a nose operation, probably due to a pack being left in his nose several days.

Alcohol and glycerine dressings were applied to the boils on the leg, and permanganate douches given for the vaginal discharge.

The following day the patient had developed pain in the pelvis and lower abdomen, undoubtedly due to the extension of the infection of the vagina upward. She was sent to the Children's Hospital, and on entrance had a temperature of 104.8, pulse 110, and respirations 40. Hemoglobin, 64 per cent; red blood corpuscles, 3,100,000; white corpuscles, 10,200; polynuclears, 70 per cent; lymphocytes, 30 per cent. She was put in extreme Fowler position, and hot compresses were applied to the whole abdomen. She had a profuse diarrhea, and we were unable to give any fluids per rectum. Nausea and vomiting prevented giving any fluids or food by mouth.

The next day the temperature remained 104.5, pulse 125, and respirations 40. The abdominal pain had increased in severity, and the abdomen was boardlike well up above the umbilicus. Nausea and vomiting continued. Patient was given 500 cc. 10 per cent glucose twice daily for the next five days, with 1000 cc. normal salt solution in the thighs daily. During this time she continued to be nauseated, and was unable to retain fluid. The abdominal rigidity became more marked and extended up to the diaphragm. The temperature ranged from 104 to 100.5, the pulse from 130 to 110, and respirations from 40 to 30. Cultures of the vaginal discharge showed pure streptococci. The patient had the definite drawn facies of peritonitis and cramping pains in the abdomen which were almost unbearable.

On August 13, five days later, she was given 275 cc. of whole blood, her father acting as donor; both patient and father, Group IV. There was no cross-agglutination. The blood was given because of the fact that the hemoglobin was only 60 per cent, 3,000,000 reds, and also because of the possibility that the father's blood might contain some antibodies, which might be of great value to the patient's resistance, since he had just recovered from what we presumed to be the same type of infection.

The next day the child's condition was about the same, possibly a little improved. Her temperature was 100.4, and remained below 101 for the next four days. She received 500 cc. 10 per cent glucose daily, and 1000 cc. normal salt solution intramuscularly. The abdominal pain became less severe. There was less rigidity of the abdomen, nausea ceased, and the patient was given water and liquid foods by mouth. She continued to improve for the next week, and on August 25 looked and felt much better and was able to take food normally. She still had some infection of the urinary bladder. Temperature, pulse, and respirations remained more nearly normal and her progress was quite satisfactory.

On September 11, rectal examination of the pelvic organs showed a mass the size of a small orange in the middle and posterior. This was no doubt the uterus with inflamed tubes and ovaries in one mass, which was hard, and there was no sign of fluctuation. The patient was having no fever, and the leukocyte count was normal. Advised leaving the mass alone until it became very much enlarged and fluctuated, and then it would be sound judgment to leave it alone some more.

We are aware of the fact that the diagnosis of peritonitis in this case is open to challenge, but the infection began in the vagina, in the pelvic peritoneum and gradually extended upward toward the diaphragm, the muscle spasm and rigidity were boardlike, she was slightly jaundiced, restless and in a deep stupor at intervals, and had the typical drawn facies of peritonitis. We have a reasonable right to call this streptococcic peritonitis, as we found a pure culture of this organism in the vagina. Such cases of peritonitis are usually fatal when operated upon.

We feel that this patient was kept alive with glucose intravenously and fluid intramuscularly for two weeks, during the time when her stomach refused all foods, and nothing could be given by bowel because of the diarrhea, until the body had overcome the infection and normal peristalsis started again.

Mrs. W. Age, 25 years. Entered Dante Sanatorium August 18, 1924.

*History*—The patient was taken ill three days before entering the hospital with pain in the abdomen, nausea, and vomiting. About twenty-four hours after admission, the pain was localized in the right side. The pain became very much better during the last eight hours of this period, at which time the appendix probably ruptured.

*Examination*—Examination disclosed a boardlike abdomen with a great deal of pain in the pelvis and in the right iliac fossa. Urine: Showed 1 plus albumin. Occasional pus cells. Blood: White, 20,800; 88 per cent polys. Temperature: 101.5. Respirations: 28.

*Diagnosis*—Peritonitis from ruptured appendix.

*Operation*—August 18, 1924, 6 p. m. Lower midline incision. The appendix presented readily, and was wrapped with a heavy fold of omentum. This portion of the omentum was ligated and removed with the appendix. The pelvis was filled with yellowish, foul-smelling fluid. A rolled rubber drain was placed in the cul-de-sac, and one in the right iliac fossa, and the abdomen closed in the usual manner.

*Post-operative History*—The peritonitis gradually extended toward the diaphragm. By the fifth day postoperative, the upper intestinal contents had to be washed from the stomach four or five times every twenty-four hours. The abdominal distention became very great, and all attempts to relieve the pressure by colon irrigations, enemas, etc., were futile.

The drains were removed on the fourth day and one of the non-absorbable sutures extracted, which allowed the abdominal wound to open freely for drainage. Wet dressings and hot stoops were applied to the whole abdomen. The stoops were changed every two hours and were continued for two weeks. For the first two weeks, the patient's temperature ranged from 99 to 101; the pulse from 110 to 150; and the respirations from 28 to 40.

*August 22, 1924*—The patient became jaundiced, very restless, picked at the covers, and stated that she did not feel like herself. In her own words, she said: "I feel goofy."

She was given 1000 cc. 10 per cent glucose intravenously. The patient noted a great improvement, and the nurses remarked about the definite change in the expression of her face.

*August 23, 1924*—Abdominal distention was as great as we have ever seen. During the next twenty-four hours, the patient received 3900 cc. 10 per cent glucose intravenously and 1300 cc. normal salt solution intramuscularly.

Total measured intake, 5200 cc. Measured output, 2000 cc. urine.

*August 24, 1924*—Patient's condition was about the same. Within the twenty-four hours she received 4000 cc. 10 per cent glucose intravenously and 1400 cc. normal salt solution intramuscularly.

Measured fluid intake, 5400 cc. Measured output, 2000 cc. urine.

*August 25, 1924*—Patient was about the same, except that she developed hiccough. Her stomach was washed more frequently for a few days following this, which relieved the hiccough. During this twenty-four hours she received 4400 cc. 10 per cent glucose intravenously and 1600 cc. normal salt solution.

Measured fluid intake, 6000 cc. Measured output, 2450 cc. urine.

*August 26, 1924*—Patient slept poorly during the night, in spite of morphine and heroin, which was given plentifully. She received 4700 cc. 10 per cent glucose intra-

venously and 1400 cc. normal salt solution intramuscularly.

Measured fluid intake, 6100 cc. Measured output, 5700 cc. urine.

*August 27, 1924*—Patient seemed somewhat improved. She was given 5100 cc. 10 per cent glucose intravenously and 1200 cc. normal salt solution intramuscularly.

Measured fluid intake, 6300 cc. Measured output, 5000 cc. urine.

It was noticed that after each each injection the drainage of pus from the abdominal wound was more copious and possibly a little thinner.

*August 28, 1924*—Patient was definitely better. There was no more nausea nor vomiting. She was given 4800 cc. 10 per cent glucose, and was allowed to have 300 cc. of water by mouth which she retained.

Measured fluid intake, 5100 cc. Measured output, 4900 cc.

*August 29, 1924*—Patient showed further improvement. She received 2400 cc. 10 per cent glucose, 2200 cc. normal salt solution, and 5400 cc. fluid by mouth.

Measured fluid intake, 9800 cc. Measured output, 6300 cc.

It is interesting to note that the patient drank more than five quarts of water during this twenty-four hours, in spite of the fact that she had received the large quantities of fluids daily, as stated above.

*August 30, 1924*—There was further improvement in patient's condition. She was given 2000 cc. 10 per cent glucose intravenously and 1800 cc. water by mouth.

Measured fluid intake, 3800 cc. Measured output, 3500 cc.

*August 31, 1924*—Intravenous glucose and normal salt solution omitted. Large quantities of fluid were given by mouth.

*September 1, 1924*—Patient again became restless and mentally sluggish, and stated that she did not feel well. She was given 2000 cc. 10 per cent glucose, and was so completely changed within an hour that it could hardly be believed. It was particularly noticeable in her mental attitude, the expression of her face and voice. Following this, the patient took fluids and nourishment by mouth and made an uneventful recovery.

*October 8, 1924*—Patient left the hospital.

E. P. This patient, a girl 4 years of age, entered the Children's Hospital October 30, 1922.

We saw her in consultation with Dr. Langley Porter shortly after she entered the hospital. Doctor Porter had seen her for the first time half an hour before. The child's family gave a rather typical history of acute appendicitis, including abdominal pain, nausea and vomiting.

Examination disclosed a well developed, well nourished child, with a greatly distended abdomen; with general peritonitis, apparently from a ruptured appendix. Patient's general condition was not very good. Blood: White, 35,900; 88 per cent polynuclears; 12 per cent lymphocytes. Urine: 1 plus albumin. Positive for diacetic acid and acetone. Temperature: 103.8; pulse, 116; respirations, 38.

*Operation*—October 30, 1922. Upon opening the peritoneum, free pus exuded and there was no localized abscess. The appendix was removed and drain inserted at the site of the cecum and into the pelvis.

Patient was given 200 cc. 3 per cent glucose solution, subcutaneously, while on the operating-table.

On October 31, 1922, the patient developed great abdominal distention. The pulse was around 140. Respirations, 36.

November 1, 1922, the patient seemed somewhat better. Considerable gas expelled with the aid of pituitrin, ¼ cc., SS., turpentine and alum enemas, the use of which we now consider a mistake. Following this first panic of ours, no further irritating enemas or pituitrin were given.

November 4, 1922, the patient showed some improvement, but distention was still marked. The pulse was 116. Respirations, 30. The stomach was washed repeatedly.

On November 5, 1922, the patient was about the same, except that she was stuporous and comatose at times. The stomach was washed, as indicated.

November 6, 1922, the patient was still in a comatose state. She could be aroused with difficulty. Pulse, 116. Respirations, 32. Temperature, 100. Five hundred and fifty cc. 10 per cent glucose given intravenously.

Patient still having gastric lavage two or three times a day. Unable to retain anything by mouth. Three hundred cc. 3 per cent glucose solution given subcutaneously in the evening.

On November 7, 1922, the patient was still comatose at intervals. Six hundred cc. 10 per cent glucose was given intravenously and, as before, the patient showed marked improvement in her facial expression and in her talk with her mother. Five hundred cc. normal salt solution was given intramuscularly in the thighs.

On November 8, 1922, the patient's condition was about the same. Five hundred cc. 10 per cent glucose was given intravenously. Patient has had hot compresses to the abdomen since the second day after the operation. She received 500 cc. 10 per cent glucose up to November 13.

On November 13, 1922, because of the fatness of her arms, it was difficult to find veins after we had used them so often; and as the patient was improved, we discontinued the glucose intravenously, but continued the normal salt solution intramuscularly. By November 15, 1922, the patient was back in a deep state of coma, at which time she was given 250 cc. of whole blood.

On November 16, 1922, the child was very much improved, showing the great value of whole blood transfusions, which we now use very often in cases of long infection.

On November 17, 1922, 500 cc. 10 per cent glucose was given intravenously.

On November 18, 1922, the patient's condition was very much improved. She was able to retain fluids by mouth.

The child steadily improved following this, and left the hospital on December 5—she had been operated upon October 30, 1922. It is evident that this child took almost nothing by mouth and very little by bowel, and that she was kept alive by the intravenous use of glucose and fluids intramuscularly.

## DISCUSSION

WALTER W. BOARDMAN, M. D. (350 Post Street, San Francisco)—The authors have rendered a valuable service in bringing so strikingly to our attention the happy results that may follow the treatment of acute spreading peritonitis by the bold, persistent and judicious application of modern methods.

The general principles underlying this treatment are the same as for any acute spreading infection, namely, fixation and general supportive measures which influence the outcome of the conflict between the infecting organisms and the infection-resisting forces of the body. However, in view of the fact that this particular inflammation most frequently occurs following the perforation of some intraabdominal organ, and that as a result of the perforation and the following peritoneal inflammation the functional usefulness of the gastro-intestinal tract is completely, or almost completely, destroyed, two special problems have to be faced. The first has to do with the treatment of the perforation, the second with the maintenance of anything approaching a normal metabolism in the presence of a useless gastro-intestinal tract.

The treatment of the perforation is always surgical if seen early; later it may require the most skilful clinical judgment to determine correctly whether the surgical treatment of the perforation, or the non-surgical treatment of the peritonitis, is the more pressing. An error in judgment here may mean the loss of a life. The less frequent cases of peritonitis of hematogenous origin and the commoner cases secondary to pelvic inflammatory conditions are generally recognized as non-surgical during the acute stage.

Reverting for a moment to the fundamental principle of our treatment—fixation of the abdominal contents, especially the intestines—we find that nature does her best to accomplish this end. However, we may assist by supplying a good bed allowing the Fowler position, by administering opium as necessary to depress any persisting peristalsis or to control pain or restlessness, by withholding all food by mouth, by early frequent or con-

tinuous gastric lavage for distention or vomiting, by the avoidance of all peristalsis-increasing drugs, and by the most cautious use of stimulating enemas. The free use of external heat may act as a local circulatory stimulant and tend to decrease abdominal distention thereby.

Under general supportive measures, we are confronted with the difficult problem of maintaining something approaching a normal body metabolism in the presence of a serious infection and a practically useless gastro-intestinal tract. Without special measures, these patients become dehydrated, may develop a starvation acidosis or an alkalosis from excessive vomiting. Our indications are then, first, the administration of liberal amounts of fluid per rectum, subcutaneously, or intravenously. Second, the administration of some nutritive substance and glucose either per rectum or intravenously has been amply demonstrated to be the only substance worthy of serious consideration. The use of bicarbonate of soda has gained more or less general acceptance, but there is some question as to its desirability as a routine, and it is definitely contra-indicated in threatened alkalosis. It must not be overlooked, and there is a real danger of circulatory embarrassment from the intravenous injection of large amounts of fluid. It must finally be emphasized that help from these measures can only be obtained if they be intelligently used, the special indication in each ease being carefully considered.

The authors' explanation of the clinical manifestations of acute spreading peritonitis on the basis of Mann's experimental work is interesting and suggestive, but not convincing, as it is evident that there are many points of dissimilarity between a dog with a total absence of the liver and a man with an acute spreading peritonitis. So far as I know, there have been no careful blood sugar studies in cases of this type, and it is to be hoped that such a report will be forthcoming.

The case reports, four in number, are instructive and interesting, and happy in their outcome. It would be of value to have an accurate statistical study of a large series of such cases. However, as the authors state, these methods merley keep the patient from dying from dehydration, acidosis, etc., while the body is overcoming the infection, and it must be apparent that so long as our treatment is purely symptomatic and not specific we must inevitably have a certain percentage of fatal cases, no matter how skilfully these symptomatic measure are applied.

CHARLES MINER COOPER, M. D. (Butler Building, San Francisco)—I fully agree with the principles of treatment as outlined by Drs. Weeks and Brooks. The experimental and laboratory work which they quote would seem to indicate that the therapy they recommend might be of service. An extensive experience has satisfactorily demonstrated to them its great clinical usefulness. I cannot but accept their conclusions and congratulate them on their results, but would emphasize the great importance of the proper preparation and administration of this as of other solutions for intravenous medication; otherwise disastrous reactions may occur in a percentage of patients that would make their use risky and perhaps inadvisable.

It would seem to me wise if Weeks and Brooks would tell us something concerning the nature of the reactions that may occasionally occur, how to avoid them, and how to combat them.

E. C. FLEISCHNER, M. D. (384 Post Street, San Francisco) — Many years ago Roger showed that the toxic effects of most poisons manifest themselves with much greater severity in animals that have been starved than in those whose livers contained a certain amount of glycogen. This observation has been verified many times, so that the work of Dr. Weeks and Dr. Brooks confirm observations that have been previously on animals.

Concerning the effects of bacterial toxins among infections in childhood, more deaths occur as a result of dehydration and starvation than from any single cause, and there is no question whatsoever but that the harmful effects of bacterial toxins can frequently be neutralized by the body when it has at its disposal sufficient glycogen and sufficient water, whereas without these substances its resistance is too low to overcome the invading bacteria.

## THE CLINICAL SIGNIFICANCE OF BUNDLE BRANCH LESIONS

By ARTHUR STANLEY GRANGER *

*An analysis of recent literature of outstanding merit and a study of thirty-five cases of this serious disorder, which may be diagnosed with certainty only by the aid of electrocardiographic examinations.*

DISCUSSION *by George Dock, Pasadena; Gordon E. Hein, San Francisco; Howard F. West, Los Angeles; John J. Sampson, San Francisco.*

DURING the past four years I have had occasion to observe thirty-five cases showing electrocardiographic signs, indicative of a lesion involving one of the main branches of the bundle of His. Because this lesion is of such serious import from the standpoint of a very high mortality rate, and because the electrocardiograph is the only known means of disclosing its presence, it is worth while to discuss briefly the facts known in connection with the pathology of these lesions, and the mechanism of production of their electrocardiograms, in addition to reporting the clinical findings in the above mentioned group.

These bundle branch lesions are recognized by certain changes in the form of the normal QRS syndrome of the electrocardiogram, resulting in aberrant complexes of more or less definite type. Since the work of Eppinger and Rothberger in 1909 they have been considered as indicative of disturbances of intra-ventricular conductivity. These investigators observed that while destruction of relatively large portions of the ventricular muscle by injection of silver nitrate did not, in some instances, change the form of the electro-cardiogram, in other experiments relatively small lesions produced marked changes. They further observed that the lesions producing the most marked change were in the neighborhood of the larger branches of the conduction system, and later by severing the branches of the bundle of His they were able to produce aberrant complexes in the electrocardiograms. Along with their experimental work, they were on the constant lookout for clinical cases showing such bizarre QRS syndromes, and fortunately five such cases were observed about the same time by Eppinger and Stoerk, and two of these came to autopsy. Both showed lesions which completely blocked the right branch of the bundle of His, while the left branch was normal. The direction, breadth and amplitude of the QRS deflections in repeated electrocardiograms from both the above cases are typical of reproductions since made experimentally by severing the right branch of the conduction nerve. Further investigations by Rothberger and Winterberg, Cohn and Lewis and Lewis have tended to confirm these findings in all essentials, so that at the present time there seems to be no question of the identity of these lesions. More recently, Wilson and Hermann

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and Smith have conducted experiments which have thrown considerably more light on the mechanism of the production of the very interesting electrocardiographic signs typical of a destructive lesion involving one of the main branches of the conduction bundle.

Normally, the excitation impulse passes from the auricles by way of the bundle of His and its main branches along the interventricular septum and through the larger and smaller subdivision of these branches into the Purkinje network which lies beneath the endocardium of each ventricle. From this network the impulse passes outward into the ventricular walls. The speed of the impulse through the Purkinje tissue is about ten times its speed through the ventricular walls, so that the impulse spreads rapidly along the endocardium of the septum to the apex and thence upward along the network in the endocardium lining the outer walls. The subendocardial muscle is activated in the same order. It will be seen, therefore, that the time of appearance of the excitation wave on the epicardial surface of the ventricles will depend somewhat on the thickness of the ventricular muscle. Lewis has shown that cutting the right branch of the bundle of His caused a considerable delay in the spread of the excitation wave over the right ventricle; at the same time there was no delay in the activation of the left ventricle. This delay is caused by the absense of any connection between the conducting networks of the two ventricles below the main stem of His bundle, so that when the right branch is cut the excitation impulse can only reach the right ventricular Purkinje system by passing through the muscle of the ventricular septum. *It is, therefore, the slow rate of travel through the septum that causes the increased QRS interval of bundle branch block.*

What now are the characteristics in the electrocardiogram typical of a lesion involving one of the bundle branches? Carter gave the following criteria for the recognition of these lesions:

1. P-R interval frequently, though not necessarily prolonged beyond 0.2 second.
2. QRS interval exceeds 0.1 second and as a rule constitutes more than one-third of the entire complex.
3. Relatively increased amplitude of initial deflections.
4. Final deflection of T, usually in a direction opposite to that of the most prominent R deflection.
5. Initial deflections almost always show notching in at least one lead, with many bizarre forms seen.
6. Final deflection of T almost always exaggerated.

In block involving the right branch, the initial deflection of the QRS syndrome is upward in lead one and downward in lead three. In lesions involving the left branch, the opposite holds true. The left branch is comparatively rarely involved.

Such changes in the ventricular complex are in general typical of these bundle branch lesions. Aberrant complexes of less amplitude are occasionally seen in left ventricular preponderance, where a greatly thickened muscle delays the transmission of the activation wave, giving an increased breadth between the limbs of the R deflection. Somewhat like abnormal QRS deflections are also noted in extra systoles which arise in the ventricles, and there are some which may be accounted for on a basis of a partial block of one of the bundle branches. This latter, however, does not refer to the so-called Arborization Block described by Oppenheimer and Rothschild, the existence of which is doubted by Wilson and Hermann, and by Smith. But the electrocardiographic findings in these abnormalities could in no way be confused with the typical QRS complex of a complete bundle-branch lesion.

In our series of thirty-five cases the age incidence was as follows: One in the eighth decade, three in the seventh decade, ten in the sixth, seven in the fifth, seven in the fourth, five in the third, and two in the second. The youngest patient was 24 years of age.

All showed dyspnoea in varying degrees. In every case which has come under our observation the dyspnoea has been a constant symptom and at times the only complaint. In ten cases the dyspnoea occurred during rest, and five showed orthopnoea. Fifteen showed a hypertension above 175. In twenty-nine absolute cardiac enlargement was noted. In six the enlargement was relative only. Twelve showed irregularities of various kinds. Murmurs were present in fourteen; in six of these the mitral valve was involved, in six the aortic, and two showed involvement of both valves. Edema was present at one time or another in only sixteen of this group. The urine showed evidence of varying grades of nephritis in twelve. Eight had pain in the cardiac region and referred areas suggestive of angina. There was noted a reduplication of the first heart sound in eight cases. Pulsus alternans was present in one. The blood Wassermann test was positive in six cases, the age incidence in these being 24, 32, 33, 35, 48, and 52. Six gave a history of having had repeated attacks of acute inflammatory rheumatism, and in ten there were definite evidences of focal infection.

The clinical course of these patients is most interesting. Twenty-eight have been followed; nineteen have died within an average period of ten and one-half months; nine are living, but have gained no relief from their untoward symptoms. One man has had six electrocardiograms at regular intervals during the past two years, and the findings have remained unchanged. One patient is living and in fair condition thirteen years after the lesion was first discovered in Bad Nauheim. The electrocardiographic findings in all showed the characteristic aberrant QRS syndrome. The ventricular phases were broad at their base, and for the most part showed a slurring or notching near or at the crest. The duration of QRS in all exceeded 0.1 second, and in some was almost 0.15 seconds. The T waves were in the opposite direction to that of the most pronounced ventricular deflection in thirty-two of the thirty-five cases. The most prominent of the ventricular deflections showed notching in thirty-three cases. The right bundle branch was involved in thirty cases, the left in five. There was an increase in the P-R interval in but two cases. Auricular fibrillation was present in two cases; extra ventricular systoles in seven.

A most interesting and striking feature in our series was the fact that eight cases showed absolutely negative physical findings, with the only complaint and subjective symptom, that of dyspnoea. One patient was operated upon and died four days

later of cardiac failure. We advise strongly against operation in all cases presenting this lesion in the electrocardiogtam.

Herrick and Smith, in 1922, reported their clinical observations on a series of thirty-five cases in which the probable diagnosis of bundle-branch block was made from the electrocardiogram. Their notes very closely approximate our findings.

These lesions of the myocardium, involving one of the main branches of the bundle of His, are extremely important from the standpoint of prognosis. The mortality is very high in all reported series of cases. Willius states the death rate is aproximately 70 per cent within a period of three years from the discovery of the lesion. Sudden death is not uncommon. It is hoped that further clinical experience will give more data on which we can at least base a probable diagnosis. It is unfortunate that the electrocardiograph is the only means of definitely showing this pathology *intra vitam*. However, with the increasing use of this instrument, more cases will be brought to light and further associated clinical evidence enhance our existing knowledge of this most interesting condition.

### DISCUSSION

GEORGE DOCK, M. D. (Security Building, Pasadena)—Those who still believe that the string galvonometer is of use only for experimental purposes will be much interested in the practical paper of Doctor Granger. His observations are quite in line with those of others in different parts of the world, and show that in a class of cases not entirely rare an accurate diagnosis can be made by the study of electrocardiograms. Judging from experience with other cardiac anomalies, there is reason to think that those who study patients with the aid of the galvonometer will be able to recognize bundle-branch block with considerable accuracy by the clinical examination. By the wider use of apparatus and the installation of a string galvonometer in every hospital, the use of the method will be widely available.

GORDON E. HEIN, M. D. (University of California, San Francisco)—Distortions of the primary ventricular complex are of great interest and their recognition of definite help in prognosis. Classifying these deformities as to the part of the ventricular conducting system involved is sometimes difficult. As is emphasized in Doctor Granger's series, the length of life of patients showing this electrocardiographic picture is usually short. Of nineteen patients reported by Heard and myself in 1920, almost one-half were dead before four years had elapsed. Two patients were alive four years after the original electrocardiogram had been taken. The average age of our patients was 57 years, and most of them showed evidence of disease of the cardiovascular renal system. In most instances there was sufficient clinical evidence to enable one to make a diagnosis of serious cardiac disease, but we also had exceptions to this rule, and these exceptions emphasize the need of more frequent recourse to the electrocardiogram. A curious phenomenon noted by us was the persistence of a given form of deformity for a period of years.

HOWARD F. WEST, M. D. (1032 West Eighteenth Street, Los Angeles)—Doctor Granger has shown that but one symptom—dyspnoea—was a constant finding among the patients in his series, and that physical findings of organic cardiac disease occurred with much less constancy and consistency. These facts, associated with the serious prognostic importance of this type of electrocardiogram, offer the most important argument for a wider use of the string galvanometer. If more patients beyond the fourth decade contemplating surgical operations were studied by this method, much light would be thrown, I believe, upon the poor response many patients make to anesthesia and operative procedures. These studies are of important clinical value, and should stimulate a wider use of the galvanometer.

JOHN J. SAMPSON, M. D. (University of California Hospital, San Francisco) — It is remarkable that a sign, namely, bundle-branch lesions, to which such serious prognostic import is given, should present the numerous exceptions as 30 per cent in Willius' series, 32 per cent in Granger's series, and 55 per cent in the cases followed at the University of California Hospital.

The value of the electrocardiogram in the discovery of suspected myocardial damage is not doubted. It is in such cases as the eight with dyspnoea alone that the electrocardiogram is of greatest value through its confirmatory evidence of questionable pathology.

The emphasis placed on any such particular sign as an absolute index of prognosis in heart disease seems an error. It is more rational to evaluate such definite evidence of cardiac damage as one would true angina or cardiac dyspnoea—naturally of serious import and a warning worthy of a regime guarding against heart strain, but in estimation of immediate prognosis, chiefly of importance in its association with other evidences of myocardial insufficiency.

Dyspnoea was uniformly present in Granger's series of cases, certainly a substantial clinical warning of possible myocardial damage.

It is interesting to note that in the University of California series, 87 per cent of those dying died within one year of the time of the discovery of the lesion; whereas, of those at present living with the lesion 80 per cent have had it for a period of over one year.

In agreement with Hein, I find that the diagnosis of the exact type of conduction system lesion is not simple, in that one or more of the criteria of Carter or Lewis frequently are ill-defined. The relatively high proportion of these borderline lesions is demonstrated in the 3550 electrocardiograms at the University of California Hospital. There were thirteen characteristic left bundle-branch blocks, sixty-six characteristic right bundle-branch blocks, whereas there were eighty-two atypical records.

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## CLINICAL PICTURE OF BEGINNING CARCINOMA OF THE STOMACH

### WITH ANIMADVERSIONS ON X-RAY ILLUSIONS IN GASTRO-INTESTINAL DISEASE

*By* HARRY I. WIEL *

DISCUSSION *by Harold Brunn, San Francisco, and G. Y. Rusk, San Francisco.*

CANCER of the stomach, more than any other form of cancer, is characterized by the baffling feature of the absence of definite criteria by which it can be diagnosed in its infancy. The tragedy of the situation always has been that the earliest positive diagnosis has been arrived at when the lesion was so well established that a hopeless course has been inevitable. Our quest has been, not only some means of cure, but the discovery of manifestations that would enable us to recognize the disease in its incipiency.

I have had one patient who was proved by surgical operation and histoligical findings to have carcinoma of the stomach actually in its very first stages. The uniqueness of this experience makes its reporting worth while. And without attempting to generalize from one experience, it may be profitable to attempt in this solitary instance to discover some sign or symptom which differentiated this earliest

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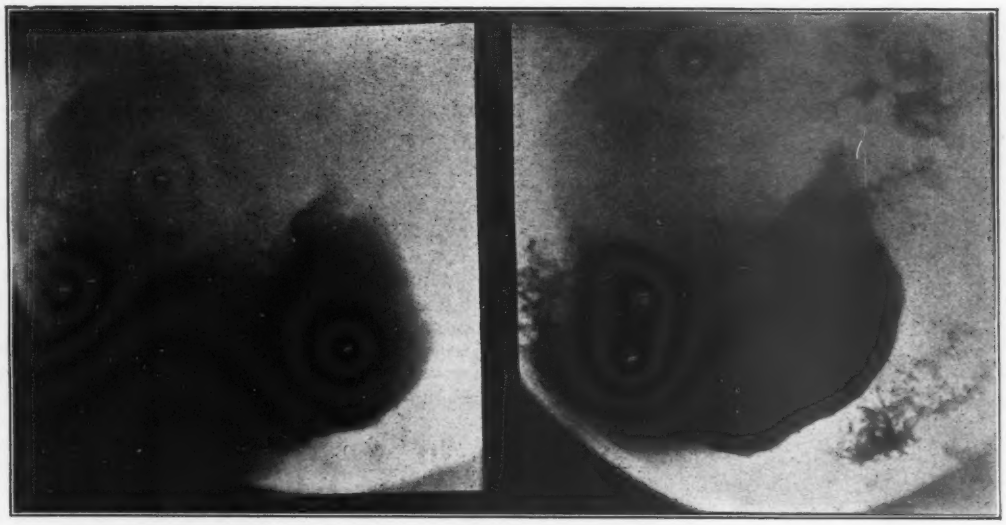

No. 2

Radiogram, taken three days later with patient thoroughly atropinized, showing same phenomenon.

No. 1

Radiogram, showing large pyloric defect and almost total absence of duodenum.

stage of cancer of the stomach from those usually seen.

CASE REPORT

This patient has been under my observation for thirteen years for whatever medical attention he has needed. He was a single man of 64 at the time his stomach disease developed. The family history records much arteriosclerosis, but the patient gave no evidences of it, in spite of his chronic gout, which he had had intermittently and severely for over twenty years. In his youth he had had several attacks of gonorrhea, but there was no history of lues, nor was a positive Wassermann ever obtained. In 1912, twelve years before the onset of the present illness, Hugh Young removed a benign papilloma from his bladder. Six years ago Harold Brunn operated upon him for a bursitis of the left subdeltoid bursa. Three years ago he was under the care of Walter Baldwin for an osteoperiostitis of the lower lumbar vertebrae and the greater trochanter of the right femur.

*Present Illness* — (This is purposely given in detail directly from my records.)—September 3, 1924. During the last three years the patient has been in good health, and there has been no occasion for me to see him professionally. About a year ago he noticed that if he ate freely of fruit he got "indigestion." He, therefore, abstained from fruit and was troubled no further. About six weeks ago he began to have pain under the lower portion of the "breast bone." He considered this due to indigestion. He decided that these "gas pains" were more a sense of pressure than anything else, combined with a sense of tightness. This pain has persisted, sometimes being distressing, and radiates to either side of the lower chest, but never to either arm. He has also had considerable pain across the shoulders, but he does not connect this with the pain across the front. With these pains and discomforts is associated a desire to belch, and if he succeeds in belching the pain is relieved. Five nights ago he had a sudden attack of pain, and for the first time it was associated with vomiting. Vomiting gave some relief, but he noticed that the vomitus contained stuff that looked like coffee-grounds. Has noticed no black or tarry stools. He has lost ten pounds in two months, but more than that notices a most alarming loss of strength and "pep." No shortness of breath nor swelling of the feet.

*Status*—The patient is strikingly cachectic in marked contrast to his usual look. However, his mucous membranes are not anemic. Pupils normal. No abnormal lymphatic nodular enlargements, and particularly no Virchow nodule is made out. Lungs normal. Heart normal size. Sounds are all of good quality. Over the aortic region is a slight systolic murmur, probably an aortitis. Pulse not noteworthy. Abdomen full, but decidedly not so full as it has been in the past. He has always been pot-bellied, but now the "pot" is gone. The right upper quadrant is definitely tighter than elsewhere, and there is some tenderness here, but no definite mass is made out. Reflexes normal. Urine normal. Stool strongly positive for occult blood (meat-free diet), and this finding was constant on the many occasions the stool was examined. Blood count normal (red blood corpuscles, 4,850,000; Hemoglobin, 95 per cent). Gastro-intestinal x-ray studies, made two days later, showed a large lesion of the antrum, just inside the pylorus. This involved the entire distal third of the stomach. To exclude spasm, the patient was thoroughly atropinized for three days, and the x-ray was then repeated. Findings were the same.

A. W. Hewlett and Harold Brunn agreed with me that the patient had definitely a cancer of the stomach, and that the lesion, judging from the x-ray findings, was probably of such an extent as to make it inoperable. Nevertheless, operation was decided upon on the chance that conditions might not be found so untoward, and at any rate to do a gastro-enterostomy to forestall a possible oncoming obstruction—in other words, a palliative measure.

Two days after the last radiograms Brunn did a laparotomy. The upper abdomen showed very few adhesions, and no tumor mass was visible. Just inside the pylorus, however, could be felt a small, hard tumor about 9 mm. in diameter, which was resected with the entire pylorus. The stomach was closed and a gastro-enterostomy done. One very small mesenteric gland was made out in exploring the abdomen. This gland was excised, and under the microscope showed nothing but inflammatory tissue. The tumor, as you can see by the illustration, was a typical adeno-carcinoma, with the carcinoma cells going no further than the mucous lining of the stomach.

Glanville Rusk, pathologist, assured me that he had never seen or heard of a cancer of the stomach in so early a stage and still strictly limited to the mucous layer. It must have been in its very beginning. At the time of this writing (May, 1925), it is now nine months since the operation and the patient is normal in every way as far as we can discover.

Now, what is there about this case which is so definitely a beginning cancer of the stomach which distinguishes it from other cancers of the stomach? The sad answer is, nothing. The history is typi-

No. 3
Microscopical appearance of tumor, showing carcinoma strictly limited to mucous membrane.

cally that of the usual patient we meet, and if one can judge at all from this patient, one would have to say that the clinical picture of beginning carcinoma of the stomach is the same as in the more advanced stage of the disease.

More disappointing than that, however, is the manner in which the x-ray findings failed us. Too often we are prone to regard the x-ray findings as matters positive beyond dispute, especially when taken in connection with the clinical and laboratory examinations. I maintain that we are entirely too smug in our acceptance of radiological dicta, and I think I am safe in speaking for the radiologists themselves in this matter. There are still unexplored fields in interpretations of x-ray photographs. I should not attempt an explanation of the paradoxical x-ray findings in this case, but it has fixed me in the attitude that in radiology, at any rate, one cannot always believe one's own eyes.

This attitude had been started by previous experiences of a similar nature, which are here summarized:

A man, age 52, with symptoms and clinical findings of duodenal ulcer. X-ray findings: "Duodenal cap of small size, hazy in outline, with an irregular filling defect on the medial surface. Conclusion: Duodenal ulcer." X-ray findings three years later: "Duodenal cap shows persistent contraction in the middle third; is never well outlined. Conclusion: Duodenal ulcer."

On the strength of the increase in symptoms (following medical treatment they cleared up temporarily) and the constancy of the x-ray findings after three years the patient was operated upon. At operation a small whitish scar was discovered just at the duodenal side of the pyloric ring. This was not definite enough to be able to say surely that it was the scar of an old ulcer. One could say, with certainty, that it could not possibly have given the duodenal deformity seen in the radiogram. The duodenum itself was easily mobilized and nowhere had adhesions. The gall-bladder was normal and free from adhesions. The patient's post-operative course was completely satisfactory, and he has had no return of his symptom. It should be added that when the duodenum was opened at operation a very small red area was found on its posterior surface. Harold Brunn, who operated, could not be certain that this was not traumatic. This area was excised (it was about 2 mm. in diameter) and Rusk reported that under the microscope it showed a subacute duodenitis.

When all is said and done it is perfectly apparent that this report has been iconoclastic in the extreme. All I seem to have accomplished is to add to my despair and perhaps to detract from the faith in an instrument that is so valuable, but which still needs improvement. Nevertheless, one very strong ray of light shines brightly through the gloom. This patient was actually cured by surgery of a disease which has been hitherto tacitly accepted as hopeless, and this one experience may help us feel certain that cancer of the stomach found in its very beginning is curable. Then remains the problem how to find it in its infancy, and that problem those who come after us may solve.

## DISCUSSION

HAROLD BRUNN, M. D. (Fitzhugh Building, San Francisco)—The case recorded by Wiel is of considerable interest, especially from the standpoint of early diagnosis and operation for cancer of the stomach. It seems remarkable that in the numerous fluoroscopic and x-ray examinations made of the gastro-intestinal tract that we do not more often come across by chance an early, perhaps unsuspected, carcinoma of the stomach. I have never, however, been so fortunate.

The following case illustrates the earliest case that it has been my good fortune to operate upon, but here there were definite stomach symptoms which demanded examination. Before operation, because of the large defect at the pylorus, we felt that the case would probably be inoperable, as is so often our experience. However, on exposing the stomach we found a mass at the pyloric orifice which was very difficult to diagnose by palpation. There was no dimpling of the serosa. The mass seemed to be, in the mucosa, rather soft in consistency, and we thought it very likely to be polypoid in nature. Because of our indecision as to the nature of the growth, we first made a transverse incision across the pylorus to expose it. There then appeared a mass about the size of a hazel nut that did not seem to be definitely infiltrating. The opening of the stomach was closed, and then a resection of the stomach was made quite wide of the growth. In doing this a single gland was found near the head of the pancreas which we thought was probably carcinomatous, but proved on microscopic examination to be entirely free of any cancer cells. We have, therefore, in this case a reasonable hope that recurrence will not take place.

Dr. Wiel I feel, however, is too optimistic after nine months' apparent cure to prognosticate the future of his case.

GLANVILLE Y. RUSK, M. D. (University of California Hospital, San Francisco)—In regard to the remarkable case of carcinoma which Wiel is reporting, I might add that, from a pathological point of view, I hardly consider that the term adenocarcinoma adequately describes the lesion found. It is of colloid carcinoma type, and the degree of desmoplastic reaction is also striking. Whether this differentiation in type is of significance in relation to the interesting x-ray findings or not is for further observations to determine.

DOCTOR WIEL (closing)—Dr. Brunn seems to have been misled as to the degree of confidence with which I have prognosticated the future of this patient. I should like to add, however, that at the date of this note (January 18, 1926), sixteen months after the operation, the patient remains free from symptoms, and his physical examination reveals nothing to indicate a recurrence.

# SOME OF THE FUNCTIONS OF HUMIDITY

By DEAN BLAKE *

*A thorough understanding of humidity is vital to public health, and its study should be removed from the physicist's laboratory and placed where its many branches and ramifications can be approached, not only by the theorist, but by the practical man as well.*

DISCUSSION *by Paul M. Carrington, San Diego; F. W. F. Wieber, San Diego; William C. Hassler, San Francisco; Walter M. Dickie, State Board of Health.*

IT HAS been repeatedly brought to my attention that many points about humidity are very little understood, and concerning which many mis-statements and wrong conceptions have been advanced, not only by the general public, but by physicians as well. The idea that the thermometer alone registers the heat and cold experienced by the human body is entirely too prevalent, judging by the opinions of health seekers who examine data in the weather bureau offices. Other climatic elements, such as wind movement, rate of evaporation, and the amount of water vapor in the air also affect our bodily sensations of heat and cold. Severe cold, for instance, becomes unendurable when accompanied by wind, and calm weather with a hot, muggy atmosphere is also productive of great discomfort, and even fatalities.

By humidity is meant the amount of water vapor present in the air, and it is recorded as absolute and relative. Absolute humidity is defined as the actual amount of moisture in a given quantity of air, expressed in grains per cubic foot, or grams per cubic meter, but is little used in statistics in this country. Relative humidity, on the other hand, is the relation of the amount of moisture present to the amount necessary for saturation at the same temperature. As an illustration, when the relative humidity is 50 per cent, then half as much moisture is present in the air as would be necessary for saturation under existing barometric and thermometric conditions.

Naturally, marine locations have a higher absolute humidity than continental climates, as the air is charged with water vapor to a greater degree, owing to the proximity of the ocean. But this is not necessarily true of the relative humidity. The capacity of air for moisture increases rapidly with addition of heat, and the relative humidity, therefore, changes with change in temperature. A warm oceanic district may have a smaller mean relative humidity than a cold interior, and at the same time have a greater absolute mean. This may be further explained by taking a mass of saturated air at a temperature of 32 degrees. Its relative humidity would be 100 per cent. However, if its temperature should suddenly be increased to 51 degrees, without change in other elements, the relative humidity would become 50 per cent, but the absolute would remain the same, regardless of temperature.

An interesting anomaly that perhaps needs a brief explanation is that humidity may keep us warm or cool, depending upon the temperature of the air which contains the water vapor. Moist air has a greater capacity for heat than dry air, providing the temperature is the same. At temperatures around the freezing point, or 32 F., moist air "feels" colder than dry air, because under these conditions it takes away heat from the skin faster, leaving the skin colder. When the temperature is higher, the heat is kept in the body by the humid air because, owing to poor conduction and radiation, evaporation is hindered and heat loss is prevented.

The physiological effects are too many and too well known to enumerate here, but most writers agree that damp air induces nervous depression, slower blood circulation and quiet sleep, while dry air acts as a nervous excitant and causes sleeplessness and restlessness.

One of the engaging problems of the day is the humidifying of the heat in our public buildings and dwelling places, which, under the prevailing system of heating, are drier than the Sahara desert. Another problem of more recent advocation is the movement of air in our rooms, not only during the heat of summer, but also in the winter. To insure a minimum amount of affections of the throat and nose, and consequently the respiratory organs, these problems should be studied by the physician, the architect, the contractor, the builder, and the meteorologist. A thorough understanding of humidity is vital to public health, and its study should be removed from the physicist's laboratory and placed where its many branches and ramifications can be approached, not only by the theorist, but by the practical man as well.

## DISCUSSION

P. M. CARRINGTON, M. D. (Watts Building, San Diego)—Humidity in its effects on the human organism must be considered in connection with the other elements or factors which enter into the composite whole constituting weather or climate. Again, the effects of humidity must be viewed in the light of man's power of adjustment or accommodation to his environment.

Air movement, and temperature, are potent factors in modifying the effects of humidity; still, hot days with high relative humidity give us the sun-stroke column in the daily paper of the Eastern cities. A moist atmosphere does, as stated by Mr. Blake, act as a nervous sedative, while excessive dryness is a decided excitant to the nervous system, but again the question of altitude, temperature and air movement comes in to intensify the effects of the condition of the air with relation to water content. Sudden changes in humidity act profoundly on many individuals, hence the importance considering this element in systems of heating of buildings.

This is my conclusion of the whole matter: moderate humidity with gentle air movement and mild temperature are wholesome conditions and make for comfort and health during all hours, whether of labor, refreshment or sleep.

F. W. F. WIEBER, M. D. (United States Navy, retired, San Diego)—The underlying physical facts in relation to the humidity of the air, both absolute and relative, have been clearly set forth in the article by Mr. Dean Blake. The physiological facts can be stated as follows:

Generally speaking, cold air as well as dry air, are stimulating. They act as a tonic, stimulate metabolism.

Warm air, as well as moist, depresses and retards metabolism.

As temperature and humidity increase, depression increases.

With a wet bulb temperature of 85 degrees, the body temperature begins to rise, owing to diminished heat loss,

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even though the body be at rest. Progressive increase of temperature and humidity will result in heat stroke at a temperature far below that which can be borne readily if the relative humidity be low, due to the stoppage of heat radiation.'

A temperature of 62 to 65 degrees is more comfortable for rooms in which the absolute humidity is 70 degrees. With the relative humidity below this figure, a higher temperature is necessary because of the rapid evaporation from the body surface and the consequent sense of chilling. This evaporation decreases as the air approaches saturation, hence a lower temperature is required for comfort.

The relative humidity of the air for comfort should be about 70 degrees.

WILLIAM C. HASSLER (Department Public Health, San Francisco)—Dean Blake's address is a timely, succinct, presentation of a very important factor in preventive medicine. The relation of humidity in the atmosphere to comfort, to health, and to the efficiency of the workman is a very large and important subject on which, up to the present time, there has been considerable difference of opinion. In spite of this difference, certain physiological facts seem to have been proven, namely:

(a) That low humidities are uncomfortable unless accompanied by high temperatures.

(b) Low humidities are accompanied with increased amounts of dust in the air, which, together with the physiological effects of increased function of glands and membranes, create a condition that inflames or irritates the mucous surface of the respiratory tract and renders them susceptible to invasion of the specific micro-organisms of disease, and secondarily it causes an irritation of the nervous system through the excessive dryness of the skin, due to increased evaporation, all of which produces a nervous tension and a debility even in healthy persons.

We have yet to determine definitely what is the effect of humidity on the human body. Is it the absolute or the relative humidity that affects our sensibilities and our health? Or is the wet bulb temperature the all-important factor? Is a constant humidity on a fixed scale necessary or desirable throughout the year, and is it at all desirable to provide artificial humidity?

Every physician realizes that normal body heat must be dissipated, and the proper regulating of this heat loss is one of the most important elements in producing body comfort and health.

I concur with Dean Blake that the great majority of doctors have relegated to the engineer, the architect or the builder the determination of this important adjunct to health for the occupant of the home, the school, the workshop, playhouse, or office building, whereas it should be a joint responsibility. It is only in recent years, and through the efforts of the National Anti-Tuberculosis movement, that any progress in education of the public and the medical fraternity has been really made.

Dr. Henry Mitchell Smith in his paper, "Indoor Humidity," read before the Brooklyn Medical Society, says: "The overheating of our houses has been accepted as a prominent cause of catarrh, but I am confident that the low relative humidity, and consequently large saturation deficit . . . in our rooms in winter, is much more important than the overheating, and doubt the so-called damp climate of the sea coast or the shores of large inland lakes is in itself responsible for the diseases charged to these localities, but believe it is much more likely due to the great contrast between the indoor and the outdoor relative humidity of those regions."

Additional study and further proofs on the comparative effects of claimants that low humidities and accompanying high temperatures are preferable to higher humidities and lower temperatures is desirable to settle the difference of opinion and determine within closer limits the relation of the humidity to the temperature, under comparative conditions, that is best suited to the greatest number and prevent the pathological changes above mentioned. Preventive medicine is especially interested in this question, particularly in times of epidemic of the respiratory diseases.

Further studies along this line may also develop the reason for our seasonal increase of the pneumonias, etc. Our ever-changing conditions of living, especially in cities with their overcrowding and attempt to heat rooms with gas radiators or gas plates, more often with no outlet to carry off the products of combustion, and no means of determining the relative humidity, is one of the main factors in lowering resistance to the pathogens of disease.

WALTER M. DICKIE, M. D. (State Board of Health)—Relative humidity is important in determining the comfort and general health of the human being. Great extremes in humidity and dryness are productive of discomfort. We know that moderate temperature, moderate humidity and gentle motion of the air make for the greatest comfort, but continued uniformity in climate may become monotonous. Occasional storms and climatic changes, if not too abrupt, provide a necessary variation that is stimulating and of great importance in the maintenance of health. Temperature and humidity are not the only factors that make climate, however. Sunshine, for example, must be included in any discussion concerning climate and health. The importance of sunshine has been recognized for many years, but we are only beginning to learn of the effects of the particular rays in the maintenance of health. All of the many factors that enter into the make-up of weather and climate should be considered together.

Nearly all of the respiratory infections are more prevalent during the winter months. The relative absence of sunshine during this period of the year may have something to do with this increased prevalence. It is probable, however, that body fatigue induced by faulty metabolism, faulty elimination, and the consequent lowered individual resistance incidental to indoor winter life, have much to do with the contraction of the respiratory infections. Crowding and close personal association that always accompany indoor life when cold weather exists favor the spread of these contact infections.

Too often, responsibility for the spread of respiratory infections is placed upon low temperature and extremes in humidity alone. These are to blame only insofar as they apply to the production of body fatigue. The natural adaptability of the human being to great changes in climate is remarkable. The application of the simple rules of personal hygiene, including "dressing for the weather," supplements this natural adaptability and provides an important factor in preventing the body fatigue of winter. It is true that most of our homes, offices, and factories are overheated during the winter season, rendering the individual unfit to accommodate his body mechanism to the rigor of the cold outside air. The proper use of the open window, the best ventilating device that has as yet been made available, can do much to overcome this defect.

Climatology, with relation to health, has not as yet acquired the status of an exact science. In reality, there is little knowledge that has been contributed to this subject. It would seem that temperature alone may be a factor in determining the prevalence of some diseases; in others, humidity, sunshine, and air movement may play important roles, and in other diseases various combinations of these factors must be considered. Each and all of them, or any of them in combination with each other, may even constitute determining factors in susceptibility, resistance, and immunity to disease. Surely, there can be no wider field of research open to diligent workers than the study of climatology with relation to man's health.

DEAN BLAKE (closing) — The discussion of the few notes on humidity has been of considerable interest to me, and as it seems to have been centered more around the physiological effects than any other factor, I beg permission to append a few paragraphs.

The problem of expressing weather in terms of a scale of human comfort is one that is engaging doctors and meteorologists alike, and many attempts are being made to classify weather observations according to their effects on the body. In fact, a mathematical formula is being sought.

So far the most complete study in print is Dr. Leonard Hill's "The Science of Ventilation and Open-air Treatment," published by the Medical Research Committee, London, 1919-1920. The rate at which our bodies cool under various weather conditions is discussed fully,

Dr. Hill obtaining his values from the katathermometer, a wet and dry bulb thermometer of his own invention. Several important papers bearing on the subject have also recently appeared in the October, 1925, number of the "Monthly Weather Review."

The importance of atmospheric moisture in its relation to plant and animal life has been fully recognized. Ravenstein, in his well-known climatic classification, for one, has subdivided the earth into sixteen hygrothermal climatic types, the grouping being based upon certain relations between temperature and relative humidity. Perhaps too much stress is laid by investigators on its importance, but the fact remains that the physical and mental differences of certain African races, alike in other particulars, can be traced definitely to the effects of dry and moist climates.

I think it unquestioned that the stimulus of seasonal changes in weather found in the temperate zones contribute much to man's highest development, and that the monotonous, moist heat of the tropics is fatal to ambition and progress. It has been said that there are no fourth generations of Anglo-Saxons in India! There seems to be some question, though, as to the value of continuous or nearly continuous sunshine, some claiming that localities with "filtered sunshine" produce greater efficiency and are more nearly "ideal" than those where cloudiness is not so prevalent.

In late years attempts have been made to correlate the prevalency of large high barometer areas with certain epidemics, such as influenza, but a segregation from the mass of other influences of the effects of pressure alone has not been carried out to a great degree of satisfaction.

I heartily agree with Dr. Dickie that there are few more inviting fields for research than those of the effect of climate and weather on health, but so many interrelated factors enter into the subject, such as environment, heredity, customs, diet, clothing, etc., that trustworthy conclusions can be arrived at only after a most painstaking investigation.

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**Under present conditions doctors should be more patriotic than partisan** *at elections.* Self-preservation is one of the first laws of nature. Medical men must stand together. The organized profession must have a clear-cut platform on things medical, and must not hesitate to back it whether or not it is palatable to either of the old parties and their candidates. In the new order of things there is no longer to be considered the party brand. The slogan for the future should be: "Does the candidate stand for radical medical legislation, which is always un-American, destructive alike to the interests of the people and the profession." The welfare of the profession and the masses of our people is knitted and woven into the fabric of the campaign against bolshevism and destructive foreign propaganda financed and fostered by agents of destruction. The ideals for which we strive are always in the interests of the public and are not impossible of accomplishment, if we will wage a constructive fight against the election of any candidate for the legislature or for other office who is in sympathy with un-American propaganda. Whether one is a Democrat or a Republican makes no difference in local government. He can join in the saving of the government without abandoning his political party. What we need now is political leaders who will not show cowardice in evading issues involving the safety of our government because they antagonize aggressive minority organizations. Loyalty to the best interests of all the people must be above and beyond that of any civil or industrial organization working for the interests of special groups or classes.—Illinois Medical Journal.

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**The consistent anti-scientist** is quite right in refusing the authority of science in matters of faith. He is obviously wrong in refusing the testimony of science where facts will tell the story, unless he is willing to throw over all science, and discard his radio, his electricity, his antitoxin, and his automobile. If we are going to be cowards in our books, we shall be used as cowards deserve, and our trimming in the long run will cost us heavily in cold cash as well as in the advance of civilization.—Saturday Review of Literature, March 27, 1926.

## VINCENT'S ANGINA

### THE SIGNIFICANCE OF FUSIFORM BACILLI AND SPIRILLA IN MUCOUS MEMBRANE LESIONS

*By* HIRAM E. MILLER AND NORMAN EPSTEIN *

*(From the Department of Dermatology, University of California Medical School)*

*Fusiform bacilli and spirilla are normal inhabitants of the mouth and external genitalia. They often secondarily invade pathological processes in these locations, and give a smear picture somewhat similar to that seen in Vincent's angina. A smear from a case of Vincent's angina shows large numbers of spirilla of somewhat uniform size and shape, many fusiform bacilli, and a few other organisms. A smear from some other pathological condition in the mouth may show many spirilla of varying size and shape, some fusiform bacilli and many cocci, diphtheroids, etc. Vincent's angina is never a bullous disease, is seldom localized in one or two areas, and to the best of our knowledge has never been the cause of a skin eruption. The local application of neoarsphenamine has been the most useful therapeutic agent in our hands.*

DISCUSSION *by Rea E. Ashley, San Francisco; J. Edward Harbinson, Woodland; Ernest Dwight Chipman, San Francisco; Irwin C. Sutton, Hollywood.*

PATHOLOGICAL changes in the mucous membranes of the mouth are often difficult to classify. Some evidence of systemic disease, a coexisting skin eruption, or a history of medication may be of definite aid. When these are absent the possibilities are manifold.

During the World War some of us saw epidemics of Vincent's angina. Much was written concerning them, and physicians were led to believe that this was a disease of common occurrence. It was taught that if the microscopical examination of a smear from an ulcerative mucous membrane lesion revealed the presence of fusiform bacilli and spirilla a positive diagnosis of Vincent's angina could be made. In this paper we wish to emphasize the normal habitat of these organisms, and to mention the pitfalls that one may encounter if they do not correlate the microscopical findings with the clinical aspect of the disease.

#### THE NORMAL HABITAT OF FUSIFORM BACILLI AND SPIRILLA

The association of the fusiform bacillus and spirilla in the human body has been noted by many observers in connection with both normal and diseased conditions. In fact, the very first organisms seen under the microscope were these spirilla from the tartar of the teeth described by Leeuwenhoek in 1683.

These organisms occur normally in great numbers about the teeth, in the crypts of the tonsils, and in the adenoids. Campbell and Dyas report that 50 per cent of all swabs taken from the mouths of

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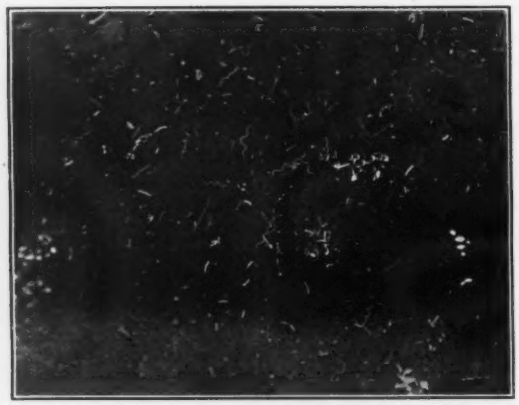


normal troops showed a few Vincent's organisms. Pilot and Brams report that 82 per cent of one hundred pairs of excised tonsils showed numerous fusiform bacilli in the crypts, while 25 per cent showed spirilla, and 32 per cent of adenoids showed fusiform bacilli, while 4 per cent showed spirilla.

A study of smears from about the gums of 160 of our clinic patients with apparently normal mouths showed:

| | Very Numerous | Numerous | Few | Absent |
|---|---|---|---|---|
| Spirilla | 16 (10%) | 40 (25%) | 67 (42%) | 31 (23%) |
| B. fusiform | 12 ( 7%) | 65 (41%) | 71 (44%) | 12 ( 7%) |
| Cocci: | | | | |
| Staph. Strept. | 41 (25%) | | 119 (75%) | 0 |

From the above table it can be seen that spirilla were found in 77 per cent of the cases, and the B. fusiformis was present in 92.5 per cent of them. Cocci were present in every case.

The smears in this series were prepared by rubbing a cotton swab about the gums and teeth and then spreading this material over a slide. The slide was air-dried and stained for 30 seconds with Sterling gentian violet. Examination of most of these smears showed spirilla which varied in length, and in the number and size of the curvatures. The organisms were not very numerous, but they could be demonstrated in most of the fields. The fusiform bacilli were always present when spirilla were found, but several slides showed B. fusiformis in moderate numbers, with no demonstrable spirilla. Cocci were always present, and usually in great numbers. There did not seem to be any definite relation between the number of cocci and the number of Vincent's organisms. Some slides showed many spirilla and fusiform bacilli with a few cocci, and others showed great numbers of cocci with a few Vincent's organisms. Of the sixteen cases which showed many spirilla, the smears closely simulated those of Vincent's angina.

The B. fusiformis and spirilla are frequently found in the smegma about the genitalia of the male and female. They have been found in abundance in 51 per cent of uncircumcised males and about the clitoris in 60 per cent of women. They are not found in the normal vagina or uterus. They have been isolated from sloughing carcinomata of the uterus, sloughing fibroids, tumors, and syphilitic lesions of the vulva.

Vincent reported several cases of gastro-enteritis, in which large numbers of spirilla and fusiform bacilli were found. The organisms have been reported in gangrenous appendices. They may also infect surgical wounds and give rise to gangrenous processes.

All of this would seem to indicate that the normal secretion about the mouth and genitalia harbor organisms that are identical with those that give rise to true Vincent's angina.

### VINCENT'S ORGANISMS AS "OPPORTUNISTS"

The B. fusiformis and spirilla belong to the general type of bacteria known as "opportunists." When they cause infections they invariably do so in the locations in which they normally live. Any change in the resistance of the tissues about the mouth or genitalia may permit the bacillus fusiformis or spirilla to give rise to definite pathological processes. This chain of events undoubtedly takes place in some cases of: (1) Gangrene of the lung; (2) bronchiectasis; (3) lung abscess; (4) purulent otitis media; (5) noma.

From the focus about the external genitalia they may give rise to (1) erosive and gangrenous balanitis; (2) ulceration and necrosis of the labia.

In civil life we see very few cases of Vincent's angina. During the World War it was often epidemic. Some unknown factor may have increased the virulence of the organisms, which are usually saprophytic to such a point that they became definitely pathogenic. Certain authorities believe that the restricted diet and the unhygienic conditions under which the soldiers were forced to live may have played some part.

### PATHOLOGICAL CONDITIONS IN WHICH THE B. FUSIFORMIS AND SPIROCHETE OF VINCENT ARE PRESENT, BUT PLAY NO ETIOLOGICAL ROLE

Bermerdoin reported that he found B. fusiformis and spirochete of Vincent in 64 per cent of 227 cases of diphtheria, in 73 per cent of scarlet fever cases, in 50 per cent of streptococcal sore throats, and in 67 per cent of 31 cases of syphilis of the mouth and throat.

We have noted their presence in pyorrhea alveolaris, in mercury and bismuth stomatitis, in carcinoma of the mouth and throat, in tuberculosis and syphilis of the mouth, in the stomatitis of acute leukemia and pellagra, in erythema multiforme, and in a case of an ulcerated birthmark in the mouth.

Obviously, in the above conditions these organisms are of no etiological importance. They occur in considerable numbers, but are generally in the minority in respect to other organisms noted on the slide. They maintain the same morphology as seen in Vincent's angina. There is very little uniformity in the smear pictures presented by any one of these conditions in different patients. We have studied this particularly in mercury stomatitis and in pyorrhea alveolaris. It was noted that successive cases of mercury stomatitis and pyorrhea alveolaris gave entirely different pictures on the slide, although,

clinically, the cases were very similar. In some cases the smear showed great numbers of spirilla and fusiform bacilli, while others showed very few. In every case there were many cocci, and in some the masses of staphylococcus and streptococcus completely obscured the spirilla and B. fusiform. This lack of uniformity is in distinct contrast to the smears of true Vincent's angina, which consistently show a great preponderance of fusiform bacilli and spirilla.

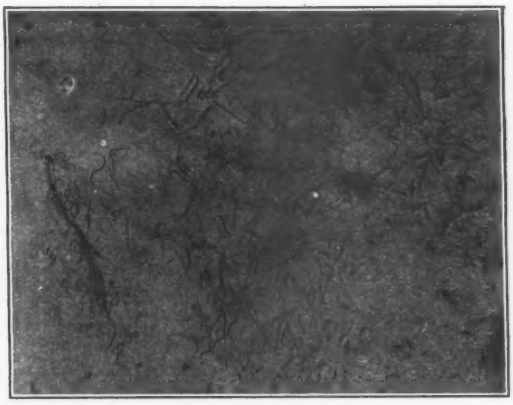
### BACTERIOLOGY OF VINCENT'S ANGINA

In 1894 Plunt, and in 1896 Vincent, conclusively showed that Vincent's angina was caused by two micro-organisms, which were always found together, namely, the B. fusiformis and a spirillum. These organisms are present in great numbers in every case of Vincent's angina, but are never found in pure culture. There are always present various pyogenic cocci, diphtheroids, occasionally a leptothrix, and at times other organisms. It is believed by some observers that the fusiform bacillus and the spirillum are different stages in the life cycle of the same organism. Pure cultures of B. fusiformis have a very low grade of pathogenicity. Large doses injected into the pleural cavity of the rabbit causes little reaction. Pilot et al. showed that, in order to produce a putrid lesion, one of the pyogenic cocci had to be added to the injection. When death occurs in experimental animals that have been inoculated with Vincent's angina material, it has always been due to a streptococcal septicemia. The spirillum and fusiform bacillus are found only in a small localized area at the site of injection.

Smears from typical Vincent's angina vary according to the age of the lesions and the place from which they are taken. In general, older lesions show a preponderance of spirilla, while early lesions show a preponderance of bacilli. Campbell and Dyas, and Gifford showed that smears from the surface of the lesions contained many more bacilli than spirilla, while smears from the deeper parts of the lesions showed the reverse. The typical picture of Vincent's angina, as seen by gentian violet stain, shows that the fusiform bacillus and the spirilla greatly predominate. The spirilla may form interlacing masses with the fusiform bacilli entangled in their meshes. The spirilla are approximately uniform in size and curvature, but varying forms may be encountered. The fusiform bacilli vary somewhat in length, and may have blunt ends without the typical fusiform structure. Some of the bacilli may be curved. In addition to these organisms, but always in the minority, are staphylococcus, streptococcus, diphtheroids, leptothrix, and occasionally other organisms. The decision as to whether or not a smear represents true Vincent's angina depends on the actual number and uniformity of the B. fusiformis and spirilla present and their relationship to the number of other organisms seen. In Vincent's angina the fusiform bacilli and spirilla predominate.

### CLINICAL PICTURE OF VINCENT'S ANGINA

Vincent's angina is essentially an acute and local disease. It usually begins as a stomatitis, pharyngitis or tonsillitis, in which there is a formation of



a pseudo-membrane similar to that seen in diphtheria. This loosely adherent grayish film may remain for some time or quickly separate, leaving a well-defined, somewhat punched-out ulceration similar to that seen in late syphilis. A very common place for the infection to begin is just behind the last molar. The disease does not remain localized in one or two areas for any period of time. Close examination will reveal superficial ulceration around many of the teeth margins, in which masses of spirilla and fusiform bacilli can be demonstrated. There are never any bullous lesions in true Vincent's angina. The disease does not cause much systemic disturbance except for an occasional fever of around 100 degrees. There is some local pain, but not as much as the amount of tissue destruction would indicate. There is very little regional adenopathy in an uncomplicated case. The Wassermann reaction is always negative.

### DIFFERENTIAL DIAGNOSIS

Inasmuch as the B. fusiformis and spirillum can be demonstrated in practically every ulceration of the buccal mucous membrane, their mere presence or absence in a lesion cannot be taken as the basis for a differential diagnosis. The clinical differentiation of the following conditions from Vincent's angina is of the utmost importance:

1. *Syphilis*—A primary lesion is generally a solitary one and is accompanied by a rather marked regional adenopathy. If material for a dark field examination is taken from the depths of the lesion it is generally diagnostic. The mouth lesions of secondary syphilis are accompanied by other evidences of the disease. Tertiary lesions are essentially chronic and localized. A therapeutic test with mercury or iodide will make the diagnosis.

2. *Diphtheria* — The patient is generally quite sick. A culture will reveal the causative agent. It is often clinically difficult to differentiate atypical cases.

3. *Tonsillitis* — The condition is limited to the tonsils. Patient feels quite sick and has a relatively high fever.

4. *Mercury and Bismuth Stomatitis* — A history of medication, with one or the other of these drugs, will substantiate the diagnosis.

5. *Pyorrhea Alveolaris* — This is essentially a

chronic disease. It is always limited to the margins of the teeth, and is accompanied by little or no ulceration.

6. *Erythema Multiforme*—The lesions are bullae or ruptured bullae. They may be limited to the mouth. Vesicles or bullae never occur in Vincent's angina.

7. *Pellagra*—A stomatitis and gingivitis frequently occurs in this condition. Some other manifestation of the disease will suggest the diagnosis.

8. *Acute Leukemia*—We have recently seen three cases of acute leukemia that had been diagnosed as Vincent's angina. In this condition the hypertrophy of the gums may be so great that they overlap and almost completely cover the teeth. This hypertrophy is due to a leukemia infiltration and may be ulcerative. A differential blood count will make the diagnosis of leukemia.

### SKIN ERUPTIONS ASSOCIATED WITH VINCENT'S ANGINA

The literature contains a few brief reports of skin eruptions, supposedly due to Vincent's angina. We have seen many patients with skin eruptions and associated mouth lesions that contained fusiform bacilli and spirilla. None of them, however, was Vincent's angina. Some were streptococcal sore throats, others were measles, pellagra, erythema multiforme, and syphilis.

Stern recently reported the existence of genital or mucous membrane lesions with regional adenopathy, with macular skin rashes and positive Wassermann reactions in which a fusiform bacillus and spirilla were found. The disease was not readily transferred from one individual to another; it cleared up under one arsphenamine injection and, in fact, in some cases without any treatment at all. Stern believes that the spirilla which he found were different from those found in Vincent's angina. In other words, the condition with which he was dealing was not Vincent's angina, but a spirillosis that he termed "parasyphilis," and was due to some unclassified organism. The term parasyphilis is ill-advised, as it is already in the literature as applying to tabes dorsalis and general paresis.

### TREATMENT

Textbooks contain a list of many drugs that are said to be of value in the treatment of this disease. We have used many of the dyes, silver nitrate, Fowler's solution, mercurochrome, and the arsphenamines.

At present we use only neoarsphenamine because we have found that it is of more value than any of the other drugs. We apply it locally at 24-hour intervals. After opening an ampule of neoarsphenamine, we dip a swab into the powder and apply it to the involved areas. The moisture about the individual lesion causes the powder to go into solution. We always apply it to both tonsillar areas and around all teeth, whether there is any apparent involvement or not. We do not give it intravenously, because we have found that improvement is just as rapid by the local method. Furthermore, by this method we avoid the danger of clearing up an undiagnosed syphilitic lesion or of giving the patients an arsphenamine dermatitis. We have seen both of these misfortunes occur.

### SUMMARY

Fusiform bacilli and spirilla are normal inhabitants of the mouth and external genitalia. They often secondarily invade pathological processes in these locations, and give a smear picture somewhat similar to that seen in Vincent's angina. A smear from a case of Vincent's angina shows large numbers of spirilla of somewhat uniform size and shape, many fusiform bacilli, and a few other organisms. A smear from some other pathological condition in the mouth may show many spirilla of varying size and shape, some fusiform bacilli and many cocci, diphtheroids, etc. Vincent's angina is never a bullous disease, is seldom localized in one or two areas, and to the best of our knowledge has never been the cause of a skin eruption. The local application of neoarsphenamine has been the most useful therapeutic agent in our hands.

### DISCUSSION

REA E. ASHLEY, M. D. (380 Post Street, San Francisco)—The subject of Vincent's angina has always interested me because a definite diagnosis can be made by a smear under the microscope and because the condition yields so readily to treatment.

The infection is comparatively rare, and yet the throat specialist sees several cases a year, and its importance should not be underestimated. Nearly all of my patients were students, nurses, and interns.

I have never recognized the infection in an otitis. Our routine, however, is to make cultures and not smears from such ears, and since the Vincent organisms are anarobes it may have been overlooked.

My treatment is very similar to that of Miller and Epstein. I have the patient gargle with hydrogen peroxide prior to making the topical applications of arsphenamine. A prescription containing emetine, Fowler's solution, glycerine, and alcohol, to be used at home by the patient, has also proved of value.

I have treated only two patients by intravenous injections of neoarsphenamine. The first patient was a nurse whose mouth was so infected and the pain so great that local applications could not be made either with a swab or with a spray. Six-tenths neosalvarsan was given. The nurse was back on duty, and completely recovered in five days. The second case was much less severe and cleared up very quickly following one injection of neoarsphenamine.

Two or three patients did not clear up rapidly under the arsenic treatment, and since reading this paper I believe the reason was that they were not correctly diagnosed.

J. EDWARD HARBINSON, M. D. (Woodland Clinic, Woodland, California)—The statistics in this paper emphasize the very important fact, that of the presence of Vincent's organisms in the mouths of healthy individuals.

We are too prone to treat patients with throat and mouth infections as Vincent's Angina because we find the causative organisms of this disease in the smear made from the swabs of the lesions.

I have recently seen a case of chronic alcoholism, with pellagra and mouth lesions typical of Vincent's angina. Spirilla and fusiform bacilli were present in abundance on the smear. Arsphenamine powder was applied locally and neoarsphenamine given intravenously. There was very little improvement in the mouth lesions, and the patient subsequently died.

Pellagra had developed on the basis of malnutrition, as the patient practically lived on questionable whisky for a period of two months. The mouth lesions were probably due to the "opportunists" seizing the chance to become pathogenic when the general resistance became low.

Some of my patients, treated solely by local applica-

tions of arsphenamine powder, did not seem to improve until arsphenamine derivatives were given intravenously. The Wassermann tests in these patients were negative and the lesions were not suggestive of syphilis.

Besides neoarsphenamine intravenously I have used sulpharsphenamine with good results. Vincent's angina seems to come in waves. A busy physician may treat ten or fifteen patients during a week, and then several months may elapse before he sees another.

ERNEST DWIGHT CHIPMAN, M. D. (350 Post Street, San Francisco)—The contribution of Miller and Epstein is of value, because it gives essential details concerning conditions frequently ignored by dermatologic authors. The paper as a whole is admirable, and I believe the chapter on differential diagnosis might be added with advantage to any textbook of skin diseases.

IRWIN C. SUTTON, M. D. (Taft Building, Hollywood)—The authors have succeeded in clearing up most of the confusion regarding Vincent's angina, stomatitis, and gingivitis. One cannot help but feel that, in the presence of a metallic intoxication such as bismuth, the organisms cause destruction only because their environment has been changed. The local treatment is all important. I have never seen any benefit, aside from a general tonic action, follow the intravenous use of arsphenamine.

DOCTOR MILLER (closing)—I wish to thank those who have discussed this paper. Their remarks are greatly appreciated by the authors.

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## BLOOD-STAINING OF THE CORNEA

*By* CHARLES MAGHY *

IN THE September issue of the American Journal of Ophthalmology, 1919, I published the pathological findings from four cases of blood-staining of the cornea, from the pathological laboratory of the Royal London Ophthalmic Hospital. Since then I have observed three additional cases, and have been able to secure the eyes for pathological examination.

In my previous article I said blood-staining of the cornea was first described by Baumgarten in 1883. It is a discoloration of the stroma of the cornea, resulting from the presence of blood cells in the anterior chamber, which in the majority of cases results from an injury, with or without penetration of the globe, although it has been known to appear spontaneously after an intra-ocular hemorrhage in infantile glaucoma.

The time at which this phenomenon manifests itself clinically varies from a few days to a few months; its duration may extend over months, or even years.

The first patient was a man, 32, who had been struck in the left eye by a piece of steel. Examination a few hours after his injury showed a penetrating injury near the limbus, with the iris prolapsed into the wound. The anterior chamber was full of blood. X-ray was negative. Vision equaled hand movements, with faulty projection. Tension—1. After three months the hyphema had disappeared, but there was a peculiar amber-colored discoloration which occupied the central portion of the cornea and measured about 7 mm. in diameter. The patient was kept under observation for several months. I was unable to discover deposits on Descemet's membrane, but a few pigment spots were present on the lens' capsule, with posterior synechiae. The eye was enucleated, on account of pain, January 20, 1919. Tension with a Schiotz tonometer, the day of enucleation, registered 60 mm. hg.

*Pathologic Findings—Macroscopic*—The globe measured 22 mm. from the center of the cornea to the optic nerve entrance. Fixation in 10 per cent formalin solution. Before section, the globe was frozen with ethyl chloride. Each hemisphere was examined with a Treacher Collins loupe.

The cornea showed the discoloration extended into its deeper layers. Lens and iris were against the cornea. Anterior chamber present at periphery only. Retina was completely detached. The parts were embedded in celloidin and stained with hematoxylin and eosin, Van Geissen and Mallory's stain.

*Microscopic*—The limbus cornea shows an area of round-cell infiltration. Many blood-vessels are distended with blood-cells. There is nothing pathological to be seen in the vessel walls, their endothelial lining is not thickened and stains quite uniformly. There is a cellular infiltration at the cross-section of the anterior ciliary vessels. The contour of the cornea is normal, except at one place, near its center, where there is a slight bulging forward. In over forty-five sections, the epithelium appears normal. The unevenness, present in Bowman's membrane, I ascribe to manipulation, as the globe was not wrinkled or noticeably shrunken before being embedded. In the stroma cornea, there were most interesting changes. Throughout this entire area, from the anterior elastic lamina to Descemet's membrane, are seen refractile bodies and blood-cells, in all stages of degeneration. Some of the cells, however, are clearly defined and take the stains uniformly, others are identified as blood-cells. The refractile bodies are rounded or oval, measuring 1.5 to 2 microns in diameter. Some are even smaller. They appear dark brown for the most part. Van Geissen's stain gives them an orange color. The situation of these refractile bodies seems to be always upon the stroma fibers or in the interlamellar spaces. Descemet's membrane is nowhere invaded by these small bodies or by blood-cells. The anterior chamber is uneven. Opposite the center of the cornea, the iris lies in contact with the endothelial layer. Much of the chamber is occupied with laminated connective tissue, in which are seen blood-vessels. The iris and ciliary body show atrophic changes. The former being markedly thinned as a whole. Some of the sections, however, show the iris to be broadened where it joins the posterior surface of the cornea. The chromatophors have lost much of their pigment, and red blood-cells are scattered about, with no signs of a vessel wall. The

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blood-vessels in this area are not distended with blood, showing that the process is not a recent one. There appears to be a marked emigration of cells from the vessels of the ciliary body toward the interior of the eye. The ciliary body and its processes show many evidences of atrophic changes. The optic nerve is cupped. The right eye was normal. Vision equaled 20/20 unaided; near vision equaled the finest type with a small plus correction.

The second patient was a man, 24 years of age, who was injured in a fight. The following day, examination showed no penetrating injury or abrasion of the left cornea. The anterior chamber, however, was full of blood. The vision was reduced to hand movements with faulty projection. The eye was not painful. Tension appeared normal to the fingers. In three months, the hyphema was absorbed, but the cornea showed a dark amber-colored discoloration. The patient complained of pain. Tension with a Schiotz tonometer registered 68 mm. hg. An iridectomy failed to reduce the tension for any length of time, and the eye was enucleated four months later.

*Pathologic Findings — Macroscopic* — Left eye measured 22.5 mm. antero-posteriorly. Fixation in 10 per cent formalin. Both hemispheres examined with a Collins' loupe. Cornea showed a brownish discoloration which extended into the deeper layers. Lens in place. Retina not detached. Embedded in celloidin. Stained with hematoxylin and eosin, Van Geissen and Mallory's stain.

*Microscopic*—The contour of the cornea appears normal. In all, forty-seven sections of the globe were stained. In none of these sections was the stroma free from blood-vessels. The epithelium and Bowman's membrane showed no pathological changes. The refractile bodies and blood-cells were everywhere present in the stroma, except near the limbus. Under the high power, the refractile bodies showed the same appearances as in the previous case, and occupied the same position, with reference to the corneal lamellae. The blood-cells are more easily identified than in Case 1. Descemet's membrane is free from these fine granules. There are many large deposits of calcified masses scattered throughout the stroma, beneath which are seen blood-vessels and free blood-cells in all stages of degeneration. The rest of the microscopical report does not interest us, so I will omit it, except to mention the nerve-head is deeply cupped. The right eye appears normal. Vision equaled 20/20 unaided.

My third patient was a man, 56, who gave a history of having injured his right eye when a boy, and several times since at rather long intervals. In his last injury he was struck in the right eye by a piece of plaster. Examination the day of his injury showed a central corneal leucoma, about 6 mm. in diameter. There was a small abrasion of the epithelium. The anterior chamber was about two-thirds full of blood. Vision equaled hand movements. Lens opaque. Tension with a Schiotz tonometer registered 48 mm. Eye never was painful until recently. Enucleation six months later.

*Pathologic Findings — Macroscopic* —Right eye measured 23 mm. antero-posteriorly. Fixation in 10 per cent formalin. Frozen with ethyl chloride before section. Collins' loupe showed a deep-amber discoloration that extended into deeper corneal layers. Lens in place. Retina not detached. Embedded in celloidin and stained with hematoxylin and eosin, Van Geissen and Mallory's stain.

*Microscopic*—The contour of the cornea appears normal. The limbus cornea shows nothing pathological. In all, thirty-seven sections were examined—some consecutive, others, every fifth section. The epithelium appears normal, but is heaped up over the scar. Opposite the scar, Bowman's membrane is missing, as it is not regenerated. The stroma shows a scar that extends from the surface above to deep into the stroma. On both sides of the scar are seen degenerated blood-cells and refractile bodies. The refractile bodies are about 2 microns in diameter, on the average, and have an orange color, or appear dark brown. Some are dust-like in size. They lie in the interlamellar spaces. Descemet's membrane is not invaded. The nerve-head is cupped. I have purposely omitted the description of the rest of the globe. Left eye normal. Vision equaled 20/20 unaided, and the smallest type with a plus glass.

## DISCUSSION

When one considers the number of patients with severe eye injuries seen in ophthalmic practice, blood-staining of the cornea is a comparatively rare condition. According to Romer, it occurred in one case out of four hundred eye injuries, at the Geissen Clinic. At the Royal London Ophthalmic Clinic, it has been observed in about the same proportion. At the Vienna Clinic, it has not been seen quite so often. Professor Fuchs states, regarding blood-staining of the cornea, that a peculiar sort of opacity and coloration (blood-staining) develops when the anterior chamber remains for some time filled with blood. Then the cornea, because it takes up the coloring matter of the blood, assumes an intense reddish, brownish, or brownish-green color, and at the same time becomes so opaque that the parts can no longer be distinguished through it.

It gradually clears again, beginning at the edge, but only in rare cases becomes once more perfectly transparent, and then only after months or years have elapsed. In that stage in which the central brown portion is surrounded by a narrow marginal zone which has regained its transparency, it looks as if a brown crystalline lens had prolapsed into the anterior chamber and was lying behind the cornea (Vossius, Treacher Collins). With the slit lamp, the staining appears to affect mainly the interlamellar spaces, in which the lamellae themselves, and along with the diffuse staining, granules and larger golden-yellow particles may be seen (Koeppe). In most cases, the microscope shows in the lamellae of the cornea highly refractive granules looking like large coccior short rods, and giving the same color reactions as the erythrocytes. In some cases granules of hemosiderin are found.

It is only within recent years that the processes and lesions involved in the various bacteriological corneal conditions have been seriously considered in the light of comparative pathology, and as such divorced, for purposes of research from the dominance of clinical conceptions. In view of our increased knowledge of the structure of cells and the impulses, immediate and hereditary, which deter-

mine their performances, it seems possible now to resolve some of the complex processes and lesions embraced in the general notion of corneal inflammations into more simple factors and to arrive, if not at an exact understanding, at least at a reasonable conception of the relationship of their phenomena to each other and to those of normal physiology.

In a summary of the seven cases of blood-staining of the cornea which I have studied, the following questions arise. What are these refractile bodies? How do they gain access to the corneal stroma? Why are they present in one severe eye injury and absent in another? Why are they never found near the periphery of the cornea? Why do we get a complete disappearance of the refractile bodies and of discoloration in some cases?

The answer to these questions indicate much diversity of opinion among pathologists. Treacher Collins considers the discoloration due to fluid passing through Decemet's membrane by a process of diffusion and depositing hematoidin crystals in the corneal stroma, associated in some cases with hemosiderin. Weeks is of the opinion that the pigment enters the cornea through the spaces of Fontana in the soluble form of hemoglobin and is there transformed into a salt, insoluble in the fluids of the cornea. Vossius thought there was a direct hemorrhage into the substance of the cornea, the blood coming from the vessels at the limbus.

Baumgarten regarded the refractile bodies causing the discoloration as micro-organisms. Von Hippel and Leber, as fibrin coagula. Romer, as globulin masses.

I am of the opinion that the refractile bodies are pigment granules transformed from hemoglobin, and that they reach the cornea both by diffusion through Decemet's membrane and through the spaces of Fontana, although in a previous article I stated a contrary opinion.

The reason we find no refractile bodies or discoloration at the periphery of the cornea I ascribe to the following circulatory changes, due to the presence of a foreign body within the corneal stroma. It is a well-established fact that in injuries to a non-vascular tissue like the cornea, for example, the primary reaction to the damage, manifested by the fixed connective tissue cells, is often complicated by the wandering in of leucocytes from the conjunctival blood-vessels. This participation of distant blood-vessels and leucocytes is, no doubt, incited by a reflex stimulation of the nerves of the blood-vessels, and may be encouraged under certain conditions by the absorption of certain injurious substances which are carried to the nearest blood-vessels by the lymphatics. Thus it is, that in a condition of blood-staining of the cornea, just as in an injury to the cornea, the lesion becomes complicated by a secondary participation of adjacent blood-vessels and, depending upon the degree of this secondary participation of the adjacent blood-vessels, the circulation at the limbus may carry the degenerated blood-cells and refractive bodies in part, or entirely, into the circulation, leaving the cornea clear at the periphery or restoring it almost to its normal state.

## THYROIDITIS

*By* H. H. Searls and E. I. Bartlett *

(*From the Department of Surgery of the University of California Medical School*)

*Acute thyroiditis is quite rare in this country, and is most commonly found as a sequel to tonsillitis, otitis media, scarlet fever, pneumonia, and typhoid.*

*Exophthalmic goiter may follow an acute thyroiditis, or, with extensive destruction of the gland, evidence of insufficiency may develop.*

*Under the heading of chronic thyroiditis, tuberculosis and lues must be given brief mention. Tuberculous thyroiditis is a common incident of miliary tuberculosis.*

*Syphilitic thyroiditis, always a rare disease, has under the rationale of modern anti-luetic treatment become an even less frequent finding.*

*A true chronic diffuse thyroiditis is very difficult of diagnosis. Thus, of seventeen such cases selected for their typical pathological picture from the files of the University of California Hospital, only three were correctly diagnosed pre-operatively, the condition in eight being called toxic adenomata, and in the remaining six, hyperplasia.*

*Because of this high percentage of error in diagnosis, a careful study of the case records of these patients has been made in an effort to determine any clinical points of differentiation which might aid in establishing, pre-operatively, the true nature of the pathological condition.*

Discussion *by John Hunt Shephard, San Jose; Wallace I. Terry, San Francisco; C. L. Hoag, San Francisco; H. Lisser, San Francisco.*

INFLAMMATIONS of the thyroid gland may be grouped into the acute, sub-acute, and chronic types. It is planned here, after a brief discussion of the other forms, to dilate at length on the chronic diffuse type.

Acute thyroiditis is quite rare in this country, and is most commonly found as a sequel to tonsillitis, otitis media, scarlet fever, pneumonia, and typhoid. The general picture is one of severe systemic reaction developing suddenly with chills, high fever, and prostration. Locally, the gland is enlarged, very firm, fixed, and quite tender. The reaction may remain localized in one lobe, or less commonly, involve the entire structure. The patient complains of severe pain, together with marked pressure on the trachea and esophagus. The process may go on to suppuration, requiring drainage, but more commonly subsides rather quickly under treatment. Exophthalmic goiter may follow an acute thyroditis, or, with extensive destruction of the gland, evidence of insufficiency may develop. There is desquamation of the epithelium lining the acini, disappearance of colloid, and tremendous invasion of the in-

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teracinar spaces by lymphocytes and polymorphonuclear leucocytes. There may be small hemorrhages. Thrombosed vessels are noted. The gland is congested and edematous.

Riedel, in 1896, first described a sub-acute inflammation of the thyroid coming on fairly rapidly, causing some pain and marked pressure, and chiefly characterized by an extreme degree of induration. Emphasizing this latter finding, Riedel named it "iron-hard strumitis." The French later applied to it the more commonly accepted term "ligenous thyroiditis." Because of its consistency and fixity to surrounding tissues, it is often pre-operatively diagnosed malignancy. The condition is characterized by a tremendous fibrosis, with absence of colloid and obliteration of the epithelial cells and acini of the gland. This rapidly forming fibrous tissue gives the extremely hard consistency to the tumor. As the new scar tissue develops in the isthmus of the thyroid, it contracts, pulling the two lateral lobes tightly against the trachea, resulting in an alarming sensation of choking. Section of the isthmus relieves this symptom, the elastic tracheal rings causing the two lobes to spring apart. No further surgery is indicated, the patient making a good recovery without excision of thyroid tissue. The records of two such cases are on file at the University of California Hospital. In both instances the possibility of malignancy was seriously considered. In one of these streptococcus viridens was cultivated from a small section removed from the isthmus. An identical organism was obtained from the patient's throat.

Under the heading of chronic thyroiditis, tuberculosis and lues must be given brief mention. Tuberculous thyroiditis is a common incident of miliary tuberculosis. However, as a primary condition it is extremely rare and is very difficult of diagnosis. Mosiman, in 1917, gave an excellent report of nine cases. None of these had been correctly diagnosed before operation. Their true nature was found only after careful pathological study. Seven had been clinically diagnosed exophthalmic goiter. Two had exophthalmos. These nine cases represented less than 1 per cent of available material.

Syphilitic thyroiditis, always a rare disease, has, under the rationale of modern anti-luetic treatment, become an even less frequent finding. Here, again, malignancy has been usually considered and diagnosis only obtained by histologic study or by response to treatment for concomitant lues.

A third type of chronic inflammation—a diffuse thyroiditis of non-specific etiology—has been made the main basis for our investigation. In exophthalmic or hyperplastic goiter, cells of the lymphocytic series are an acknowledged part of the pathologic picture. Such "round cells" may be grouped in follicles or scattered between the acini. When the infiltration is more advanced and is associated with desquamation and fibrosis, the picture becomes, in part at least, that of a chronic thyroiditis. At times the chronic inflammatory reaction is so advanced as to dominate the picture, and we find no evidence of accompanying hyperplasia. This condition, a true chronic diffuse thyroiditis, is very difficult of diagnosis. Thus, of seventeen such cases selected for their typical pathological picture from the files of the University of California Hospital, only three were correctly diagnosed pre-operatively, the condition in eight being called toxic adenomata, and in the remaining six, hyperplasia.

Because of this high percentage of error in diagnosis, a careful study of the case records of these patients has been made in an effort to determine any clinical points of differentiation which might aid in establishing pre-operatively the true nature of the pathological condition.

A second series (20 cases) in which the pathological picture was that of hyperplasia, with an associated chronic thyroiditis, was also analyzed from the standpoint of the clinical picture in an endeavor to establish grounds for a secondary diagnosis of inflammation. Many authorities feel that such an inflammatory reaction always is to be found in hyperplasia of the thyroid, and that it plays a part in the etiology of exophthalmic goiter. Against this view, definite evidence of associated thyroiditis has only been found in about 50 per cent of cases in our pathological examination of hyperplastic thyroid material.

From the analysis of these two groups of cases it is believed that the following points may suggest chronic inflammation of the thyroid, either as a clinical entity or as a secondary condition in a frank hyperplasia:

(1) A history of recent severe infection in the mouth (particularly tonsillitis). (2) Symptoms and signs of decreased function, such as falling hair, thinned eyebrows, dry skin, together with hyperthyroidism—a mixed picture often seen—suggests thyroiditis, with or without hyperplasia. (3) A slight swing in the temperature curve is suggestive. (4) On palpation, indurated areas may give a nodular impression, strongly suggesting adenomata. Even at operation, the surgeon may mistake this variation in consistency in different parts of the gland for encapsulated tumors. (5) Practically always, adhesions of the surrounding muscles to the capsule of the thyroid are noted. Chronic inflammation is, perhaps, more logically a cause of such adhesions than Roentgen therapy. (6) A tender lymph node over the isthmus, in one case of frank hyperplasia, led to an additional diagnosis of thyroiditis.

In differentiating between chronic thyroiditis alone, and hyperplasia with inflammation, the following points may be of value: (1) Exophthalmos, bruit, and thrill are pathognomonic of hyperplastic goiter. (2) Tenderness over the gland is common in thyroiditis. (3) The basal metabolic rate is rarely elevated in chronic thyroiditis without associated hyperplasia, and may be even below normal. (4) The gross picture at operation of a vascular friable adherent gland, which on section shows a mottled surface and increased fibrosis, will suggest thyroiditis.

Most of these points are only suggestive leads which may, when a number of them are noted, be of sufficient weight to warrant a diagnosis of chronic inflammation with or without hyperplasia.

Absorption of products of inflammation, rather

than a true thyrotoxicosis, may account for the toxic picture seen in some of these cases. For instance, a hemoglobin of 30 per cent in one case of diffuse thyroiditis may have in part resulted from the chronic infection.

Pathologically, the gross picture of chronic thyroiditis, as in hyperplasia, presents in varying degrees a meatiness of the gland, due to absence or marked diminution of the colloid content. The cut surface in thyroiditis, however, shows a faintly yellowish tint with a mottled appearance, due to grayish spots scattered over the surface, while in hyperplasia the uniform resemblance to fresh veal, grayish pink in color, is diagnostic.

Microscopically, thyroiditis is shown to be a replacement of thyroid epithelium by scar tissue or other inflammatory elements. The appearance of lymph follicles has no significance. There is destruction of thyroid epithelium and a so-called "round-celled" reaction under the capsule, along the blood-vessels, and between the acini. This infiltration may become so advanced as to practically destroy the glandular elements over large areas. The picture may show this progressive destruction, with replacement of epithelium by scar tissue, or there may frequently be found areas of regeneration. This regeneration resembles hyperplasia of the type in which new alveoli are being formed. Sometimes, with subsidence of inflammation, the picture may be confused at first glance with hyperplasia, and it is only by finding the irregular spotty changes in the gland that the true inflammatory nature of the pathology is recognized.

The treatment of chronic thyroiditis, when one considers the pathology, seems rationally to consist in the removal of the diseased tissue. Eradication of foci of infection within the mouth would also appear to be logical. A bilateral subtotal lobectomy has been performed on all the patients in this series. The convalescence has been quite similar in most instances to that of the ordinary exophthalmic goiter.

In closing, a partial follow-up report of the cases under analysis may be of interest. Of the seventeen cases of chronic thyroiditis from four years to six months, post-operative, nine have answered follow-up letters recently. One received no benefit from her surgical treatment, became progressively weaker, developed a psychosis and died. Another died a few months after operation of an apparently independent condition. Of the remaining seven, two report that they were moderately improved, two that they were very markedly improved, and three that they were completely cured by their surgical treatment. Concerning the effect of treatment on signs and symptoms of insufficiency, four noted marked improvement and three observed no change.

From the follow-up study of the cases showing hyperplasia with thyroiditis, prognosis was far better than in the pure thyroiditis cases. Nine out of the twenty cases answered follow-up letters. All of these felt that operation had cured them. Signs of hypothyroidism, described above as an important part of the clinical picture where hyperplasia is accompanied by thyroiditis, were more persistent. Only three noted return to normal, in amount and texture of their hair and a cleaning up of their skin. Four considered that there was some improvement, while in the remaining two these conditions have become worse. The two cases of "iron-hard" thyroiditis are being closely followed. Both are very much improved. One shows a suggestion of hyperfunction, while the other evidences mild insufficiency.

## DISCUSSION

JOHN HUNT SHEPHARD, M. D. (Growers Bank Building, San Jose, California)—Various degrees of round-cell infiltration and fibrosis, as described by the authors, have long been recognized as a part of the pathological picture in certain cases of exophthalmic goiter. Wilson pointed out that by a careful consideration of these factors, together with the degree of desquamation, he was able to judge the relative degree of toxicity, and also tell whether the toxicity was increasing or decreasing.

The frequency of marked round-cell infiltration and fibrosis in any series will depend largely upon the stage of the disease when thyroidectomy is performed. It will be most marked in the specimens removed from patients who have had one or more thyroid crises and who are operated upon when their metabolic rate is approaching or has returned to normal without much decrease in the size of the thyroid gland.

The authors, in this excellent study, have emphasized, though not specifically so stating, the important point that thyroid surgery should be preceded by definite indications, i. e., toxicity, as shown by an increase in the B. M. R.; pressure symptoms; to prevent the future development of hyperthyroidism; acute suppurative conditions; tuberculosis; malignant conditions; and for cosmetic purposes.

WALLACE I. TERRY, M. D. (384 Post Street, San Francisco)—The pathologic picture of true exophthalmic goiter is a hyperplasia with more or less round-celled infiltration. In some cases there is a marked dominance of the round-celled infiltration, and therein we approach thyroiditis. It at first seemed to me that the authors were making subdivisions of a single process, but I am now convinced that they have described in chronic thyroiditis an entity which has heretofore not been clearly recognized. It may well be that some definite organism is responsible for the condition, and it would be well to carry out bacteriologic studies, using relatively large masses of the gland, in accordance with the technic described by Rosenow several years ago.

The final results in these cases are of great importance, particularly as regards hypothyroidism. It will require the study of a considerable number of cases before one can arrive at fair conclusions.

C. L. HOAG, M. D. (177 Post Street, San Francisco)—I think this paper contributes some very important evidence to the theory of infection as a cause of hyperplasia. Round-cell infiltration is very frequently associated with hyperplasia. Doctor Searls has found this condition in about 50 per cent of the material examined at the University of California, but other writers place the percentage much higher.

The findings suggest that if the infection is sufficiently acute an abscess results; if it is less acute there is scar formation and secondary contracture producing the typical ligneous thyroid described. If the process is still less acute there is a combination of hyperplasia and scar tissue, while if chronic we have the usual picture of a true hyperplasia with round-cell infiltration.

Clinically, we are familiar with the beginning of hyperthyroidism or with exacerbations of this disease which have been caused by, or associated with, acute infectious processes.

I believe that the recognition of these various stages of inflammatory reaction in the thyroid may lead to a better understanding of the causes of thyroid hyperplasia.

H. LISSER, M. D. (Fitzhugh Building, San Francisco)—The authors are to be commended for calling our attention to this interesting and confusing disturbance of the thyroid gland. It is to be hoped that their painstaking

analysis of a representative group of patients suffering from chronic thyroiditis with and without hyperplasia will be helpful to many of us who have occasion to study various types of goiter. I am, however, inclined to the belief that a correct diagnosis of chronic thyroiditis will remain exceedingly difficult, even with the suggestive hints that the authors have advanced.

Although I agree that medicinal and x-ray therapy is apt to be futile in this condition, I would urge a conservative surgical attitude as well, except in those cases where signs and symptoms and metabolic rate point to an associated hyperthyroidism. In pure chronic thyroiditis without compensatory hyperplasia, the inflammatory process is apt to be fairly diffuse and involve a considerable portion of the gland. It would seem to me an impossibly delicate procedure to remove just the diseased area and leave sufficient normal thyroid tissue for adequate function. It is true that a consequent post-operative hypothyroidism could be controlled by thyroid extract, but it would seem wiser not to interfere at all unless hyperthyroidism complicate the picture, or local pressure signs and symptoms demand relief.

I am much impressed with the conception that the pathological picture of a chronic thyroiditis, with the addition of hyperplasia, may afford a sound and logical explanation for the not uncommon "mixed" case, where evidence of hyper and hypofunction co-exist in the same individual, a circumstance that has heretofore "mixed" the physician quite as much as the patient, and where a perverted or "dysfunction" has been assumed as the only theoretical "out" from a contradictory situation.

This paper affords a fine example of clinical pathological co-operation.

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**The present vogue among women to become thin and willowy** in order to comply with fashion's dictates has been attended with so many evil results in the way of impaired health that a plea has been made to medical men to discuss the subject from the health standpoint. Accordingly the question of whether women should reduce and how, if they are to retain their health, was debated in New York on February 22 at a gathering of physicians, dietitians, and statisticians at the New York Academy of Medicine, under the direction of the American Medical Association. The meeting really was called at the request of Mrs. William Brown Melloney, editor of the Delineator, who asked medical authorities to provide some age, weight and height tables to guide women in determining at what weight they would be healthiest, and possibly to suggest some means by which the question of how to reduce might be answered. In the discussion that resulted one of the speakers said that he was told by Poiret, the French dressmaker, that American women were almost the only women in the world who wanted to look like barber poles. Other speakers called attention to the evil effects of improper dieting and the use of drugs in an effort to reduce. One of the serious results of reducing is in the production of sterility. Overexercise, rolling machines, starvation diet, going without water, the use of thyroid, iodine, and smoking to excess, all were condemned as injurious. The untutored person frequently eliminates vitamines from his food by doing without cream, butter and other foods, thus bringing about an unbalanced diet that is very harmful and may lead to a pathological condition. The consensus of opinion was that no reducing should be undertaken except under the advice of a competent physician, and that all women need a well-balanced ration, but that there would be less tendency to accumulation of fat if the well-balanced ration is limited in amount and with the requisite amount of sleep, and with temperate habits. The American women were further admonished that it is better to be reasonably fat and healthy than to be thin and sickly.—Journal Indiana Medical Association, March, 1926.

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**All over the country Charleston marathon contests** are being held. Usually four or five of the contestants jig for some thirty hours, and are then carried to the city hospitals in a state of collapse. Silly? Of course. And what an absurdity it is for the cities to allow such contests and then care for the winners at the public's expense. —The Outlook.

## SOME SURGICAL ASPECTS OF TUBERCULAR PERITONITIS

By CHARLES D. LOCKWOOD *

*Brief report of two cases, with discriminating digest of current practices in diagnosis and treatment.*

DISCUSSION *by W. R. P. Clark, San Francisco; E. C. Moore, Los Angeles; C. T. Sturgeon, Los Angeles.*

TUBERCULAR peritonitis is a border-line affection concerning the surgeon and physician, including the tuberculosis specialist. Some recent experiences have impressed me with the fact that it is often overlooked, and that it is not given sufficient weight in the average physical examination. Its relative rarity and the obscurity of its symptoms account for our failures to detect it.

Before the discovery of the tubercle bacillus several forms of chronic peritonitis were recognized and described under different names, chief of these being the so-called chronic idiopathic peritonitis. Most of these cases were, doubtless, of tubercular origin, but there is still a small number of cases in which the specific cause is not clear. Although we now recognize the tubercle bacillus as the specific cause of tubercular peritonitis, there is still much difference of opinion as to the pathologic anatomy of the disease and its mode of invasion. It is impossible to demonstrate the tubercle bacillus in many cases of chronic peritonitis, even when the characteristic lesions, i. e., tubercles, are present.

While there are many interesting factors in the causation of the disease, such as age, heredity and trauma, the greatest interest centers in the mode of infection. Most authorities agree that the peritoneum is rarely the site of the initial lesion. The vast majority are secondary to some other focus, but the avenue by which the infecting organism

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actually reaches the peritoneum can seldom be demonstrated. One of my patients, in whom a tuberculous retroperitoneal gland had ruptured into the peritoneal cavity, suggested the possibility of direct contact infection as a fairly common occurrence.

It is questionable whether the tubercle bacillus ever implants itself directly on the peritoneum. Most pathologists deny such a possibility. One would naturally think of the intestine as a common source of infection, since those suffering from pulmonary tuberculosis are constantly swallowing myriads of bacilli. Such mode of infection would seem plausible in the presence of tubercular ulcers in the intestine, in view of the well-known fact that colon bacilli readily penetrate a damaged intestinal wall and invade surrounding structures. The fact remains that primary infection of the peritoneum has never been proven.

The primary focus of disease can seldom be discovered post mortem because of the advanced stage of the disease, and at operation the limited exposure permissible offers little opportunity for investigation. There is experimental evidence to prove that direct infection of the peritoneum may result from the injection of tubercle bacilli into the mesenteric arteries, and the frequency of the disease in children suggests the possibility of lymphatic transmission of the disease.

I have encountered several cases of tubercular appendicitis in young people with predisposition to tuberculosis, in which the retroperitoneal lymph nodes were caseous, and in one instance tubercle bacilli were demonstrated in the enucleated glands. In view of these facts, it seems reasonable to suppose that infection travels from the intestine to the lymph glands, and that these in turn break down and discharge tubercle bacilli into the peritoneal cavity.

The well-recognized routes of invasion are:

1. Hematogenous. This is undoubtedly a common mode of invasion. Generalized miliary tuberculosis, involving the peritoneum, can hardly be explained in any other way. Such infections often follow operations upon the tuberculous foci in individuals of low resistance. There is little reactive inflammation in such cases, such as peritoneal exudate, adhesions and thickened mesentery, and they are rapidly fatal. Case 2, reported below, was doubtless of this type.

2. Lymphatic extension. These lesions are of a progressive nature, more chronic in form, and lead to inflammatory reaction. They are most apt, according to Friedlander, to lie in the intestinal submucosa, in the lymph glands, and lymphatics. It is often difficult to distinguish such lesions from those arising from continuity, for contiguous lymphatic nodules may coalesce and break down.

3. Continuity. By this is meant the extension of the tuberculous process from one organ or tissue to the other without the intervention of healthy tissue. The most common illustration of this form of infection is that arising from the Fallopian tubes. There is still much disagreement as to whether infection travels from the Fallopian tubes to the peritoneum or the reverse. Dr. H. R. Wahl, reporting ten cases of tuberculous salpingitis, maintains that the route of infection is from the peritoneum to tubes, the bacilli being carried into the tube by ciliary action and by the muscular movements of the tube. The bacilli find a more favorable nidus in the mucosa and submucosa of the tubes. Experimental evidence supports this theory. It is further supported by the fact that tubercular peritonitis recovers, in the vast majority of cases, after removal of the infected tubes. The extension of tuberculosis by continuity is of great surgical importance, because it is possible to remove the disease and bring about complete restitution. Abdominal organs, such as the Fallopian tubes, the appendix, and the cecum can be completely removed surgically and infection of the peritoneum prevented. Where tubercle bacilli once gain access to the peritoneal cavity, extension takes place by diffusion and gravity.

The tubercle, which is the essential lesion in all forms of tuberculosis, is often confused by surgeons with carcinoma nodules. Since the microscope and histologic examination have come to play such an important role in diagnosis, surgeons have lost the keen powers of observation which characterized the older clinicians and, as one author has said, "The recognition of the tubercle by the unaided eye has become a lost art."

Two forms may be distinguished at the operating-table: (a) the very small, superficial submiliary type, affecting chiefly the surface of the peritoneum, and (b) the larger miliary type which invades the deeper structures of the peritoneum and in which there is a tendency to fibrosis. Both forms may be distinguished from carcinoma nodules by their tendency to caseation and by the fact that the latter tend to dimpling or umbilication of their summits.

The differential diagnosis between tuberculosis and carcinoma of the peritoneum is not always possible. The symptoms and physical signs are often identical. The chief of these are gastro-intestinal disturbances, ascites, enlarged retroperitoneal glands, swelling and tenderness of the abdomen, thickened omentum, tumor-like masses in the abdomen, and vague, more or less constant, abdominal pain. Chief reliance must be placed upon the history and the age of the patient. Tubercular peritonitis is almost invariably associated with tuberculosis elsewhere, and the vast majority of cases are in individuals under 40.

Mild cases of tubercular peritonitis are commonly overlooked. I know of no abdominal disease in which so many symptoms and signs common to other diseases are present. Symptoms such as fever, malaise, and rapid pulse are common to all infectious diseases. Laboratory tests are of little value, as the bacilli can rarely be found. The tuberculin skin test is unreliable, owing to the frequency of tuberculosis in other organs. The white blood count is rarely high, but there are notable exceptions. The abdominal signs are all simulated by other diseases, such as appendicitis, tumors, and ascites.

*Treatment*—The treatment of tuberculous peritonitis is not very satisfactory. The disease was considered invariably fatal prior to the work of Koenig in 1884. Since that time many methods of treatment have been advocated. A review of recent lit-

erature would indicate that there are three methods of treatment of undoubted value.

First. *Operative Treatment*—Collected statistics from all parts of the world show from 50 to 70 per cent of recoveries after laparotomy. Cases untreated show a much higher mortality. Cases suitable for operation are those of the exudative type. Operation should not be performed before the fourth month of the disease. In the early stage, the bacilli are too virulent to permit operation, and the exudate at this time is beneficial, acting as an antitoxin. The technique of the operation is simple. A median-line incision below the navel, sufficiently long to permit of thorough exploration. If infected organs are found, such as tubes, appendix or intestine, they should be removed. The wound is closed without drainage. The consensus of opinion seems to be that the operation does good by producing a hyperemia and stimulating the circulation.

Second. The introduction of air or oxygen into the peritoneal cavity is undoubtedly of value in this disease. Many cases of cure, after pneumoperitoneum, have been reported in both foreign and American literature. Filtrated air or oxygen may be forced into the abdomen, either through a needle puncture in the abdominal wall or through the Fallopian tubes in women. The air probably acts in the same manner as in laparotomy by stimulating active hyperemia in the peritoneum.

Third. *Treatment by Heliotherapy*—Tuberculosis in all its forms has been cured by this method of treatment. Whether the chemical rays come from the sun or are artificially produced, the result is the same. Gerstenberger and Wahl report two cases treated by the mercury quartz lamp with apparent cure. The remarkable results of Rollier in the treatment of all forms of surgical tuberculosis are well known. There are many other methods of treatment advocated for tubercular peritonitis, but they are of doubtful value. Whatever method is employed, the well-recognized hygienic, dietetic and medicinal measures should be used as adjuvants.

## CASE REPORTS

I. Mrs. W. A. C. A young married woman. For several years she complained of pain in her right lower abdomen. Three months prior to consulting me she had a typical attack of acute appendicitis, with pain, fever, vomiting, and right rectus rigidity. Tenderness persisted for a month or more following this attack, and subsided gradually. One month later she had a similar but less severe attack at her menstrual period. For two days prior to operation she had been miserable with gas pains. She had no nausea, no respiratory symptoms, and no urinary difficulty. Six months previously she had had an attack of acute pyelitis.

The examination was negative except for tenderness and slight rigidity in the right iliac fossa and tenderness on deep palpation to the left of the midline at the level of the navel. At operation the appendix was found free from adhesions and little evidence of recent infection. It seemed insufficient to explain the symptoms, and further search was made. A conglomerate mass of caseating glands was found in the mesentery of the ileum. This mass was necrotic and at the point of rupture. The glands were enucleated and the abdomen closed without drainage.

The histologic examination showed no evidence of tuberculosis in the appendix. Smears from the pus found in the glands showed many leucocytes, but no bacteria. There was much caseous material and calcareous granules characteristic of tubercular pus.

The patient fully recovered and has had no recurrence of her attacks.

II. Mrs. L. Y. A young married woman 26 years of age. Called to see her in consultation March 1, 1924. Patient had been well up to three months prior to my visit, when she suffered an attack of influenza from which she never entirely recovered. Her most marked symptoms were loss of weight, slight cough, abdominal tenderness, most marked in the epigastric region, vomiting, which always occurred at night and which bore no relation to food.

Physical examination revealed no disease of the lungs. The patient was extremely emaciated, her abdomen was tender and rigid all over. On the left side of the abdomen was a tumor mass the size of a lemon, which moved on respiration and was entirely below the rib margin. The blood showed a marked secondary anemia, with a hemoglobin of 55 per cent. The urine was negative, except for a trace of albumin and three plus indican. The radiographic examination was negative, both as to the lungs and the abdomen. A tentative diagnosis was made of either tubercular peritonitis or carcinoma of some abdominal organ.

*Operation*—March, 1924. An exploratory operation was done for diagnostic purposes. The intestine was found extensively adherent to the abdominal wall, and the peritoneal coat was covered with miliary tubercles.

*Pathologic Examination*—Histologic examination of small pieces of excised peritoneum showed caseating miliary tubercles. No bacilli were found. The patient died of inanition and exhaustion.

I might report a number of similar cases, but these are enough to emphasize the obscure character of the disease and its insidious onset. Patients complaining of vague abdominal pains, with distension, rapid loss of weight, a continuous fever, and marked leucopenia should be suspected of having tubercular peritonitis.

## DISCUSSION

W. R. P. Clark, M. D. (516 Sutter Street, San Francisco)—The subject of Doctor Lockwood's paper is of extreme interest to me, and while it deals primarily with tubercular peritonitis, it opens up a large field for discussion, namely, abdominal symptoms in the tuberculous. Many of these symptoms are toxic or reflex, particularly those in the upper abdomen, some are due to enteritis without an involvement of the peritoneum when the symptoms are first noticed, some to pelvic disorders as Lockwood has mentioned, some to inflammatory changes in the region of the appendix, and some to diseased conditions in other organs. In our work (diseases of the chest) most of the cases we see are secondary to lung lesions, and I wish to emphasize the point of always looking for the focus of infection in suspected tubercular peritonitis cases. I have seen patients where the abdominal symptoms so overshadowed the lung symptoms that an advanced lesion in the lung was entirely overlooked until after some abdominal operation had been performed without material relief to the patient. I believe in cases of tubercular peritonitis, complicating tuberculosis of the lungs, heliotherapy or other light treatment should be given a trial before surgical interference.

E. C. Moore, M. D. (511 South Bonnie Brae Street, Los Angeles)—Dr. Lockwood has covered the subject well in his excellent paper, and there is little to add to that given by him and Dr. Clark.

There has been much discussion as to whether surgery or medical treatment gives better results in these cases of tubercular peritonitis, and as a consequence numerous statistics have been recorded by physicians and surgeons. Opinion is still somewhat divided, but on the whole, perhaps, laparotomy under proper restrictions is most in favor. However, to my mind, there should be a combination of both, and certainly medical and hygienic treatment should be tried before surgery is attempted in the average run of cases. For that matter, such treatment would be as essential in the post-operative care as in the pre-operative. Heliotherapy seems to be giving good results also. Claims have been made of cures from 40 to 80 per cent by the adherents of both surgical and medical treatment.

Tubercular peritonitis may assume an acute or chronic

form. The chronic form seems more amenable to treatment. My experience has shown me it is unwise to operate in the febrile stage. In the exudative type there is usually too much fever and emaciation to attempt surgery at once.

Patients for surgery must be selected: those with effusion are usually chosen; the "dry" and ulcerative cases avoided, and cases with extensive tuberculosis elsewhere are contra-indicated. In suitable cases surgery does accelerate a cure.

C. T. STURGEON, M. D. (1136 West Sixth Street, Los Angeles)—As Dr. Lockwood has pointed out, the condition of tuberculosis of the peritoneum occurs more frequently than is recognized. It may be well to remember that it can occur in a latent form without symptoms, and discovered only at autopsy or during laparotomy for other conditions. Secondly, as is well known, the picture itself is often so very obscure, due to the great variety of its manifestations.

In the surgical treatment for the condition, W. J. Mayo in 1910 pointed out the importance of the fact that when the local lesion could be found and removed a cure might be expected when the section was taken through non-tuberculous tissue in a higher percentage of cases than by simple laparotomy. This holds especially true when the appendix, Fallopian tubes, or ileo-cecal coil are involved.

It is in this particular type that no regard is made as to whether the peritoneum contains fluid or not; but particular regard, as always, should be given to the question of tuberculosis elsewhere.

When the focus of infection cannot be found, then the remaining most favorable cases are those of the ascitic form.

Operation in the fibro-plastic form offers many possibilities for harm—structures are with difficulty recognized and resulting fistulas often occur, and the gut is very easily torn through.

The introduction of oxygen into the peritoneal cavity in cases of tuberculosis of the peritoneum undoubtedly has been of value in some cases; however, as has been stated, the diagnosis, if often obscure, there is some slight risk of puncture of the intestines in introducing a needle through the abdominal wall and, it seems to me, that a laparotomy is more often indicated because:

1. If there be a local focus of infection, such as tuberculous appendix, etc., it can be removed.
2. The air is introduced at the time of the laparotomy and fluid, if present, freely drained.
3. The diagnosis, which is often obscure, is made definite by a laparotomy.

*Important*—Surgical cases of tuberculosis of the peritoneum should be selected cases when a possibility of cure is expected.

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**Some cinchona trees being thrown into a pool of water in Peru lay there till the water became so bitter that everybody refused to drink it. However, one of the neighboring inhabitants being seized with a violent paroxysm of fever, and finding no other water to quench his thirst, was forced to drink of this, by which he was perfectly cured. He afterward related the circumstance to others, and prevailed upon some of his friends, who were ill of fever, to make use of the same remedy, with whom it proved equally successful. But it was not only the casual experience of an uncivilized people which discovered this valuable remedy, but the first prejudices against its use, which were very strong, were counteracted by the influence of a religious sect (the Jesuits), totally unconnected with the practice of medicine; and physicians were ultimately taught how to use it with effect by a man who was vilified both at home and abroad as an ignorant empiric. It is amusing to contrast this first rude natural infusion with the present neat and condensed form of exhibiting the bark: for now a grain or two of the sulphate of quinine is the ordinary dose of the remedy.—The Gold-Headed Cane.**

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**We live in crowds, and crowds are cowardly.** Perhaps this is why the American, who used to be independent to the point of absurdity and disputations beyond comparison, is becoming a moral coward.—Saturday Review of Literature, March 27, 1926.

## THE RECOGNITION OF PSYCHONEUROSES †

By JOHN B. DOYLE *

*The time would seem to be past when it was necessary to make a diagnosis of psychoneurosis by exclusion. Hysterical patients exhibit exaggerated emotional excitability, marked variability in their complaints and findings, and remarkable non-conformity in their symptoms and signs, to the limitations imposed by the accepted conceptions of anatomy, physiology, and pathology. They are no less worthy of a complete history and thorough physical examination than other groups of patients. Either they must look to the medical profession for scientific advice, persuasion and re-education, or resort to the "Miracle Man" of "Miracle Mountain."*

DISCUSSION *by John R. Llewellyn, Salt Lake City, Utah.*

IN ONE form or another, psychoneuroses constitute a great part of the work of all physicians, and are probably one of the greatest sources of unhappiness to people of all ranks of society. Every patient has an emotional as well as a physical side. Neglect of this truth has been fruitful in the development of Christian Science and the other cults and fads which have sprung up sporadically as far back as we have any record of medical history. In the desire of the people for emotional relief, they have been glad to accept almost any idea and any sort of management. The inability or failure to make adjustments throughout life lies at the bottom of many of these psychoneurotic disorders. The conception that anyone can develop a psychoneurosis or even hysteria, provided sufficient emotional strain is undergone, may not be entirely correct, but it does not fall far short of the mark. Heredity, however, plays a more important part in the development of most functional nervous disorders. The immediate causes are infinitely various, and constitute only "agents provocateurs," that is, exciting causes which merely rouse a latent disorder. The traumatic neuroses often arise as a direct result of shock, but hysteria in general is more usually the result of long-continued anxieties and more often due to the troubles inflicted by others rather than to those inherent in one's own lot. The importance of fear in the development of functional disorders can scarcely be overestimated. Who has not been impressed by the contrast between the morbid mental state of persons living in fear of tuberculosis, and the calm assurance of patients with well-developed tuberculosis living in sanitariums? A casual remark or an opinion from doctors, nurses, and at times even laymen, has often been the source of weird clinical pictures which have all but baffled medical men. That organic disease itself may bring about functional disturbances which distort to a greater or lesser degree the characteristic phenomena of the organic disease is well known.

Hysteria is a disease of the mind, manifesting

† Read before the Utah State Medical Association, Logan, Utah, June, 1924, and before the Wyoming State Medical Society, Cody, Wyoming.

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itself less in intellectual disorders than in changes of character and mood, and which conceals its true nature behind an almost unlimited number of physical symptoms (Oppenheim). At one time it was taught that hysteria was inherited and that the hereditary background was manifested early in life by a nervous excitable temperament. It is now generally agreed that mental strain, suggestion, and imitation play important parts in the development of this trouble.

While it is not my purpose here to discuss the mechanism involved in the development of functional symptoms and signs, it may not be amiss to state briefly the more common conceptions as formulated by the leading psychiatrists of recent times. Charcot was emphatic in his statement that all disease of the body caused by imagination was hysterical. Oppenheim was of the opinion that hysteria was the result of exaggerated emotional excitability and morbidly exaggerated influences on otherwise normal motor, sensory, vasomotor and secretory functions. Breuer and Freud believe that mental trauma which does not lead to an emotional discharge, which relieves the mind of emotional tension, continues to exert a latent effect, to influence the moods, and to produce a conversion of emotional excitement into physical phenomena in such a way that they become independent of the original mental experience. In later years Freud has added the doctrine that all complexes are basically sexual in their content. While Freud uses the conception of sexuality in its broadest sense, his doctrine along this line has not been generally accepted. Usually, the primary cause of hysteria is an abnormal state of mind: exaggerated emotional excitability associated with a diminished threshold of stimulus.

The number of psychoneurotic persons afflicted with migraine is rather impressive. While not a direct etiologic factor, it would appear to afford a fertile substratum for the development of a multiplicity of abnormal cerebral reactions. One of the peculiarities of certain psychoneurotic persons is to recall past mental experiences in a morbidly exaggerated way, so that the reproduction of memory pictures which have unpleasant associations is facilitated and increased. This mental state is illustrated in Case 1.

## REPORT OF CASES

CASE 1 — A man, age 45 years, a machinist, came to the Mayo Clinic October 9, 1920, complaining of a painful amputation stump. His right leg had been burned in an oil-can explosion at the age of 11, and several amputations had followed. Four years before, an amputation had been performed through the lower third of the thigh, and an Esmarch bandage used. Since then there had been a continuous "tight sensation" in the stump. The patient spent most of his time in hospitals, and was unable to work. The distress was intolerable when he was tired, or when he heard harsh music; it did not interfere with sleep. There was no definite tenderness over the stump and no neuromas could be palpated.

*Comment* — The patient was very self-conscious, and unable to forget past experiences, for example, a melody heard recently. His memory of the sensation of tightness, of which he was conscious the moment he recovered from the anesthetic, continued and was aggravated when he was at all exhausted. His exaggerated excitability was illustrated by his response to harsh music. To jump at conclusions, however, is inadvisable. A woman suddenly developed an exceedingly severe pain in one of her molar teeth after the unpleasant experience of hearing a noted singer "flat" a high note. Persistence of the pain led her to visit a dentist, who discovered a periapical abscess at the root of that tooth.

Pain is an invariable symptom of hysteria; it is invariably present in one form or another, and at one time or another. In contradistinction to pain of organic origin, it is very likely to be constant, and to be variously described as a sensation of tightness, pressure, tension, uneasiness, drawing, or bursting. It may be expressed as headache or backache. The next case presents a picture in which pain is the dominant complaint, and is associated with gastrointestinal symptoms.

CASE 2 — A man, age 60 years, came to the clinic March 16, 1923, complaining of pain in the abdomen of six weeks' duration. The patient had awakened one morning, six weeks before, with a dull heavy pain over the entire abdomen. The pain was persistent and was definitely worse at night. The patient became markedly constipated, so that he required an enema daily. One week before the onset of the trouble he had consulted a neurologist concerning his daughter. He was told that she had multiple sclerosis, would be a helpless cripple, and would have to be cared for as a child. He immediately noted a peculiar sensation over the epigastrium and hypochondriac region. It was not troublesome, however, until about one week later, when he awoke one morning to find that he had a definite band of tightness around the upper abdomen which was squeezing him like a tight corset. His family physician prescribed calomel, but his condition did not improve, and in the next few weeks he consulted a galaxy of internists. From the onset of the trouble he was afraid to eat, for fear of aggravating his symptoms. In 1908, following the loss of $30,000, he had developed a severe bursting pain in the right half of the head, associated with a drawing sensation in the right upper cervical region. He was "cured" by a neurologist who "burned the pain out with electricity."

At the time of examination the patient had lost twelve or fifteen pounds in weight, had ceased to worry about his daughter, and had concentrated his attention on his own symptoms. Physical and neurologic examinations were essentially negative. He recovered under the influence of reassurance, explanation, persuasion, a combination of galvanism and faradism, graduated exercise, and a liberal diet.

*Comment* — The patient was unable to adjust himself psychically to the situations which arose in 1908 and 1923. The development of a syndrome which he could understand, and from which he could reasonably look for relief and sympathy, was a simple conversion. This case serves to emphasize the absolute necessity of taking a careful history in which the onset of the illness is discussed with the patient in considerable detail, and in which the character of the distress is determined as carefully as possible. The past history was very suggestive when coupled with the information obtained in the study of the present complaint. This patient exhibited characteristic emotional instability. It may be well to emphasize the fact that there is no definite impairment of memory in these cases, but that the marked inattention prevents normal perception of external impressions.

CASE 3 — A man, age 24 years, came to the clinic March 27, 1924, complaining of headache and loss of memory. He had had migraine for many years. In

October, 1923, a 10-pound weight on the control cable of a freight elevator was accidentally pulled down on his head. The weight struck on the parietal area; he was not even dazed. One week later he commenced to have pain over the injured area; this was continuous during his waking hours. It was dull and aching in character, and radiated to the right occiput when severe. For two months he had been mentally confused, nervous, and irritable. He spoke in derogatory terms of the "boss," said that he earned more than $100 a month, but did not get it, and referred to his place of work as a "damned hole." "Ice-cream work" got on his "nerves." He was a beneficiary of the Workmen's Compensation Act.

*Comment*—Dissatisfaction with his work and surroundings, coupled with the fact that he will receive compensation as long as he is disabled, evolved a traumatic neurosis. He was prepared to react abnormally under the slightest provocation.

Motor disturbance and anesthesia are symptoms which, like pain, are rarely absent with well-developed functional disturbance. Spasms of the facial muscles, the muscles of mastication, and those of the extremities are not unusual.

CASE 4—An unmarried woman, age 24 years, came to the clinic August 15, 1921, complaining of inability to open her mouth, and of paralysis of the face and of the left upper extremity. In July, 1920, she had consulted a dentist for relief from pain in a tooth. Extraction was decided on, and novocain was injected with a dental syringe. Immediately after this injection, her jaw closed and she had been unable to open it since. Her face became numb and pulled to the left. The dentist wedged her jaw open with his fingers and extracted the tooth. For some time thereafter she had severe pain in the jaw, and was unable to sleep. During the next seven months the dentist had treated her in a great variety of ways without relief. A month after the onset of her trouble she began to notice weakness, accompanied by anesthesia and paresthesia, which descended from the middle of the mouth down the left side of the neck into the arm. The sense of taste was lost on the left side, and movement of the tongue restricted to lateral movement to the right. She was unable to swallow on the left side, and the vision of her left eye was poor. Early in January, 1921, the dentist opened her jaws under nitrous oxid. January 25 she instituted a lawsuit for injuries sustained as the result of malpractice.

At the time of examination she was unable to use her left hand. She had lived on what liquids she had been able to pour through the right side of her mouth. General physical examination was negative. X-rays of the nasal sinuses and of the left temporomandibular joint, as well as the routine laboratory data, were negative. The patient held her teeth close together and rolled her lower lip under the upper on the left side. Her mouth was readily opened by putting a tongue depressor between her teeth.

Neurologic examination revealed a condition resembling trismus, bilaterally. There was a variable amount of weakness of the left forehead, mouth and platysma, a questionable disturbance of the tongue, and rather severe, but variable weakness of the left upper extremity, more marked distally. Pain, temperature, and tactile sensations were totally absent over the left half of the face, the left side of the neck and supra-clavicular area, and over the entire left upper extremity. The line of anesthesia on the face extended well beyond the median line onto the right half of the lips. In all other respects the neurologic examination was negative. A normal reaction was obtained on stimulation of the right and left halves of the face with galvanic and faradic types of current. She opened her left eye normally, reflexly, but was unable to open it on command. Although unable to move her left platysma and orbicularis oris, on smiling and laughing the left half of her face moved normally. She had no trouble in putting her left arm through her sleeve, but was unable to perform similar movements on command. The diagnosis was traumatic neurosis. She was advised that no treatment would be of value until the litigation was brought to an end.

*Comment*—The patient had been harassed by pain. She was frightened by the numbness induced by the anesthesia, and would have attempted to ward off further interference by trismus. The solicitation of relatives acted as a powerful, though unwitting suggestion. The objective evidences of disease in this girl were paralysis of the face, loss of taste, trismus, and a type of anesthesia which conformed to nothing conceivable on an organic basis. Reflex actions were normal. Voluntary power in the facial muscles was lost. The patient was moody, sullen, felt abused, and complained that none of the doctors would "touch her case." The element of uncertainty introduced by litigation undoubtedly was an aggravating factor and would have nullified any attempt at psychical readjustment.

Paralysis is an exceedingly common accompaniment of the psychoneuroses. It may involve the facial muscles, or the muscles of the extremities. Hemiplegia and monoplegia, in all stages of development, are not unusual. The extrinsic and intrinsic muscles of the eye, however, are almost invariably spared. The most noteworthy characteristic of these disturbances of motor function is their variability. Sensory disturbances are the general rule, and tend to appear in the classical glove and stocking forms of anesthesia as hemianesthesia with localized areas of normal sensation, and as irregularly shaped variable patches of variegated disturbance. Occasionally there is loss of all sensation, both superficial and deep, with no disturbance of co-ordination, such as one would logically expect if a similar picture were discovered in a patient suffering from organic disease. Often there is also tenderness over certain portions of the body, which is variable and out of all proportion to evident pathologic processes. Visual disturbances are common and are by far the most frequent types of disturbance of special sense observed. While gunbarrel fields of vision are rather typical of hysteria, the most common sort of visual disturbance consists in a diminution of central rather than of peripheral vision. This defect, like all the other disturbances associated with the psychoneuroses, is very variable and responds well to suggestion. Disturbances of taste and hearing are rarely encountered.

Psychoneurotic persons, particularly children and young adults, are almost invariably susceptible to suggestion to an exaggerated degree. In the presence of pain, fear, and so forth, this exaggeration is markedly increased and the possibility of a development of hysteria becomes considerably enhanced. Unfortunately, physicians have often been the source of this ill-fated type of suggestion, and have initiated the development of an enormous number of functional states. Medical students and the profession at large have not been sufficiently impressed with the necessity of observing the greatest care when expressing opinions and doubts.

CASE 5—A girl, age 18 years, came to the clinic July 29, 1919, because of curvature of the spine, and eye trouble. Nine years before she had fallen and bruised her back. Following the fall, she had developed a severe headache and a slight visual disturbance. She was taken to Chicago, where a doctor had treated her for several months, after explaining to her and her parents that her condition was serious. About one year after the fall, curvature of the spine was first observed. A plaster

cast was advised, but not applied. Instead, the patient was confined to bed for three years, and lost much power in her lower extremities. She had had severe migrainous headaches before the injury, which continued to appear at regular intervals. She also had complained of vertigo, dyspnea, diplopia, and lacrimation.

On physical examination at the clinic she was essentially normal. Her vision was 6/5 in both eyes; the pupils, pupillary reflexes, visual fields and fundi were normal. Neurologic examination revealed marked but variable weakness in all extremities, particularly the lower limbs, and anesthesia over both lower extremities for all qualities of sensation. When the patient was forced to stand erect there was definite contraction in the muscles of both lower extremities. The tendon reflexes were normal, the sensory and motor findings exceedingly variable. The response of the muscles of the legs, thighs, and back to faradic stimulation was normal. The diagnosis was hysteria and migraine. No therapeutic measures, other than explanation of the situation, were being offered this type of patient at that time.

Two years after her visit to the clinic she was carried up Miracle Mountain, California, by a chiropractor. According to the Los Angeles Record, "On the night of Saturday, June 19, 1921, the girl went under the healer's hands. Thousands saw her get up and walk."

*Comment*—The patient suffered from migraine. Her physicians had emphasized the seriousness of her condition on a number of occasions, and had finally suggested the application of a cast. She was an ideal case for a miraculous cure. Contractures are one of the forms of motor disability not infrequently met with. They are generally characteristic and occur after pain or paralysis. They may be limited to one extremity, or to one foot or hand. The tension of the muscles is increased by any attempt to overcome the contraction, and efforts at approximation of the points of origin and of insertion of a given muscle do not aid relaxation. Contractures in the upper extremity tend to be of the flexion type; those of the lower extremity, of the extension type. One of the sequela of contracture is hysterical scoliosis. It is characterized by the absence of torsion of the vertebral bodies and by its tendency to appear and disappear on different movements of the body. The patient in Case 5 had a rather typical hysterical scoliosis. Her emotional instability is evident from the course of her complaint and the manner of cure. Case 6 resembles Case 5, but is a purer example of the influence of pain and suggestion on a patient handicapped by a congenitally high-strung nervous system.

CASE 6—A girl, age 17 years, came to the clinic August 22, 1922, complaining of pain and paralysis in the right foot and ankle. Six months before she had tripped on the school stairs and sprained her right ankle. The doctor who was called shook her foot roughly and told her to use it. Following this manipulation the foot became extremely painful and she could not move it. Subsequently, another physician applied a cast for three weeks, with no improvement. A diagnosis of tuberculosis of the ankle was made and the advisability of operation discussed. Objectively, the only findings were loss of voluntary movement of the right leg and foot, "exquisite tenderness," and emotional lability.

*Comment*—The patient's father had died recently, leaving a large family without resources. Her mother was a "crepe-hanger." The patient was much hurt by lack of sympathy on the part of the first physician; she was greatly impressed by the cast and the prospect of an operation; and she recovered on persuasion and after the use of faradism.

Parker has recently described a miscellaneous group of cases under the head of "Unusual Forms of Pain in the Area of the Fifth Nerve." Many of the patients had been subjected to one or more operations without relief. A considerable proportion of these cases were obviously functional in origin. Surgery was not only uniformly unsuccessful in relieving the distress, but actually aggravated the condition.

CASE 7—A married woman, age 34 years, came to the clinic January 20, 1922, complaining of pain in the right side of the face and abdomen, of six years' duration. The pain in the face had commenced six months after an operation for shortening of the round ligaments. At the onset, it was anterior to the right ear and radiated toward the nose and occasionally toward the temple. The discomfort had become constant, and varied from a mild to an excruciatingly severe type of gnawing pain. She had not had pain while in Los Angeles and Rochester. The abdominal pain was dull and aching. She did no "drudgery, like sweeping, and so forth," but rode around during the day and worried at night.

Several days after coming to the clinic the patient confided that she was convinced the pain in the face and the right side of the abdomen were related. She had been told by a physician that this was true, and that she would need an operation. On this occasion she said that the sharp pain in her face occurred only during sexual intercourse with her husband, and that she was normal when not in his company. She desired hysterectomy in order to rid herself of further sexual responsibility. There was a strong family history of migraine, but although migraine may have been a factor, there was a marked hysterical embellishment. The pain did not resemble that described as characteristic of the syndrome of the sphenopalatine ganglion.

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The patient had married first at the age of 16 years; at the age of 18 she gave birth to a daughter, and at the age of 20 her husband was drowned. She married a second time, this time a young man whom she loved, but whom she left because he did not support her. (This marriage was kept secret until discovered through a dream the patient related.) The stenographic course was taken

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*Comment*—The patient was a constitutional, biologic inferior who had made the usual early marriage. Her third marriage was made in order to provide a home for her daughter. Data concerning her second marriage, which was a "love match," was very difficult to elicit and was associated with marked emotional disturbance. The conflict of duty toward her daughter and sorrow for herself resolved itself into the dyspraxia and the figurative dreams which solved her problem. This woman presented definite evidence of emotional lability, a dyspraxia totally unlike those observed in organic disease, and the usual variability of changes in sensation so characteristic of such patients.

The conception that sexuality lies at the bottom of all hysteria has not been generally accepted. Like all other functions of the body, however, it plays a part in the development of a certain percentage of hysterical cases. The use of free association and interpretation, as advised by Freud, for psychoanalysis and therapeusis has not been so satisfactory in our hands that we feel that it should be universally used. On the contrary, the possibilities of doing harm would seem to nullify its advantages. Of late there has been considerable criticism of psychoanalysis on the basis that it does not constitute a scientific method when subjected to the ordinary canons of scientific criticism. While most authorities accept Freud's concepts of conflict and of repression, they are skeptical concerning his interpretation. However, any discussion of the psychoneuroses at this time would be incomplete without reference to this method.

There is a group of hysterical patients who solve all difficulties by going to sleep (catalepsy), or by running away from care (somnambulism). During such an attack the patient is able to remember all previous attacks. In the intervals, however, there is characteristically a complete loss of memory of the attacks. There is a doubling of personality with a shutting off from the external world of the second nature. These patients may show a crepuscular or twilight state (Dämmerzustände) during which they may act as children; at other times they may depart on long journeys without apparent motive.

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under the influence of hypnotism, patients with hysterical fugues are frequently able to recall their actions. Hysterical subjects tend to return to their old haunts, habits, and occupations. Their flights may be prolonged.

Any of the muscles under voluntary control may be attacked by hysterical spasms. The seizures may

Fig. 1. Note the paralytic condition of the muscles of the left shoulder girdle (February 27, 1924).

be divided into several phases, an aura, an epileptoid period, and a period of plastic passionate gestures, and lethargy. The duration of such attacks varies in different patients, and in the same patient from time to time.

CASE 10—A girl, age 18 years, came to the clinic February 18, 1924, because of paralysis in the left arm and fainting spells. Two years before she had been thrown to the ground, striking her left shoulder and the left side of the head. The scapula flared outward and motion was restricted at the shoulder joint (Fig. 1). One week after the fall she began to complain of a sensation of numbness in the fingers of the left hand and of progressive weakness in the hand. Following a number of unsuccessful attempts to reduce what was considered a dislocation of the shoulder, and after a number of chiropractic adjustments, the numbness and paralysis spread upward, extending to the wrist, elbow, arm, shoulder, neck, and the left side of the head and face, and downward onto the chest. From the time of the fall she had been "nervous," and the vision of the left eye had become somewhat impaired. In January, 1923, she was told that there was no further hope of recovery, that the nerves had been torn loose from points of exit from the spinal cord. Since February, 1923, she had been having "spells" at intervals of one day to one week, during which she would become very nervous, shake all over, and then "drop off to sleep" for from three to five minutes. During this time she was quiet, pale, and relaxed. If she was sitting in a chair she would fall back, but maintain the sitting position. On awaking she felt perfectly well and between attacks enjoyed life. Six months before coming to the clinic, she began to feel a "sore spot" over the left parietal bone and had a constant gripping pain in that area. This did not deter her, however, from physical exertion. Four weeks before, the vision in her left eye had become so poor as to permit recognition only of shadows of objects. Three weeks before, the pain in the left parietal region had become very severe and she had developed pain behind the left eyeball. Following such pain she developed severe and frequent "spells," during which the pain over the parietal area would become very severe; the right arm would be raised, and the side of the head would be grasped with the hand. She would then become unconscious for a period varying from a few minutes to an hour. During this time she would lie quietly, with scarcely visible respiratory movements. The right arm or leg would sometimes be moved. She then would begin to gulp and to produce a choking sound, associated with deep respiratory movements, would jump up, strike violently, bite, and run about, wildly exhibiting "supernatural strength." After two or three minutes she would fall over, relaxed and pale, and gradually awaken. Following this she generally fell asleep, and an hour later might be up laughing and talking, and have no memory of anything that had transpired. She had had about fourteen such attacks, none of which was associated with incontinence or biting of the tongue or cheek. During the last year she had had trouble in swallowing, and at times had ejected food through her nose.

Physical examination was essentially negative. Neurologic examination revealed complete paralysis of the left upper extremity, and over the left half of the trunk, down to a line running horizontally forward from the seventh dorsal vertebra. All muscles responded promptly to faradic and galvanic types of current. The tendon reflexes were normal. Under the influence of explanation, persuasion, and faradism, she made a complete recovery (Fig. 2).

*Comment*—On the occasion of injury the patient was treated by a young, unmarried physician, who had impressed her with the seriousness of her condition. She was enamored of him, but he did not reciprocate her affections. Her disability provided justification for repeated visits at his office. During one attempt to reduce what he considered a dislocated shoulder, the physician had used the rather dramatic and time-honored method of putting his foot in the patient's axilla and pulling on the extremity. The anesthesia was not comparable to that associated in our minds with injuries to the brachial plexus. The spasms, which were of variable duration, were complete. The aura consisted in the parietal pain and the elevation of the arm. During the epileptoid period the patient was apparently un-

Fig. 2. April 2, 1924. The function of the muscles of the left shoulder girdle has returned.

conscious. Suddenly there would be an upheaval and a violent outburst of grotesque movements of all the extremities (the period of passionate gestures), followed by a period of lethargy and the gradual resumption of normal consciousness.

Case 11 illustrates the same phenomena, though less completely.

CASE 11—A married woman, age 33 years, came to the clinic September 5, 1922, complaining of convulsions, the first of which had occurred during the

spring of 1921. While telephoning her mother, she had felt a rushing sensation which spread upward from her toes to her shoulders; she lay down and was unconscious for a few moments. On regaining consciousness, she went back to the telephone. During 1921 she had had similar attacks frequently, characterized by the rushing sensation, and by quietly slipping to the floor. She never had an attack in a public place. A sudden fright, pain or headache would precipitate an attack. In April, 1922, just before having her teeth extracted, she began to "pound the air" in her spells, to kick vigorously, to grind her teeth, to bite the pillows and bed-clothes. On one occasion she bit her arm until it bled. During these spells she would lie down and groan for about half an hour. Two weeks before examination she had had an attack of pain, associated with blindness, that started in her head, worked down to her feet, and then back up again to her head. She had had almost daily supra-orbital headache, associated with dizzy spells, momentary unsteadiness, and blindness, for the three weeks before coming to Rochester.

Physical and neurologic examinations were negative. Her vision was 6/6 in both eyes; the fundi were normal. Without having seen a convulsion, it was somewhat difficult to determine the nature of the attacks. There were few elements of genuine epilepsy, while there were many elements characteristic of higher associative movements: grinding of teeth, biting, striking with arms, and so forth. There was no syanosis, clonus, injuries, incontinence, confusion, or deterioration. She had had a miscarriage, associated with much suffering, exhibited a marked fear of pregnancy, had practiced coitus interruptus, and, in spite of apparent potency, her marriage was sterile.

*Comment* — In the patient's subconscious mind there was the natural desire for a child, which was in conflict with the fear of pregnancy. The convulsive seizures constituted a defense mechanism and a justification for the course she was following.

Incomplete spasms or convulsive seizures are much more frequent than complete ones. The movements produced are excessive, and are of a type such as are under control of the will. These patients, as a rule, are not unconscious, and show no disturbance of the pupillary reactions to light. While tendon reflexes may be lost or diminished temporarily, the corneal and pupillary reflexes are rarely disturbed as a result of functional disease.

CASE 12 — A man, age 21 years, a farmer, came to the clinic September 14, 1920, complaining of "peculiar attacks" precipitated by sudden movements, to which he had been subject since 8 years of age. Tying a string above his knee and "stopping the circulation" sufficed to prevent the onset of attacks. The attacks always started in the legs and spread upward. All muscle control was lost; there was frequent irregular jerking of the extremities, but no loss of consciousness or disturbance of the special senses. Sometimes the attacks started in one leg, and in this event frequently involved only that side of the body. The patient also described a peculiar numb, damp feeling in both legs which was present all the time, but worse in cold weather. There was no incontinence or biting of the tongue associated with the attack. He had masturbated about three times a week for many years.

On examination the patient proved to be emotional; the laboratory data and special examinations were negative. Neurologic examination was objectively negative in every detail. During examination an attack occurred; he walked to an open place on the floor, his leg twisted, he sank to the floor, his eyes closed, and he convulsed in a generalized atheto-choreic manner. The diagnosis was hysteria. After proper explanation, and under the influence of faradism, it became possible for him to perform rapid movements without bringing on an attack.

*Comment*—Life had entailed very little exertion for the patient, due to the immediate onset of a convulsion when rapid or forceful movements were attempted. He liked the situation.

The time would seem to be past when it was necessary to make a diagnosis of psychoneurosis by exclusion. Hysterical patients exhibit exaggerated emotional excitability, marked variability in their complaints and findings, and remarkable non-conformity, in their symptoms and signs, to the limitations imposed by the accepted conceptions of anatomy, physiology, and pathology. They are no less worthy of a complete history and thorough physical examination than other groups of patients. Either they must look to the medical profession for scientific advice, persuasion, and re-education, or resort to the "Miracle Man" of "Miracle Mountain."

### DISCUSSION

JOHN R. LLEWELLYN, M. D. (Walker Bank Building, Salt Lake City, Utah)—Doctor Doyle's selection of the subject, "The Recognition of Psychoneuroses," is timely indeed. So often nowadays, unless we can find some body ailment which can be measured with one of our instruments of precision or find a definite indication for surgery, the patient is patted on the back and told to go home and forget it.

Only recently a sufferer from one of the neuroses remarked to a sympathetic consultant, "Well, there is one thing I want to thank you for. You didn't take my blood pressure." This patient had been told too often to go home and forget it. He had a definite problem, the solution of which was well under way when the consultant recognized the man's difficulty, and by a series of sympathetic conversations enabled the patient to take definite stock of himself and get started on the road to happiness and success.

These patients may or may not have a physical basis for their peculiar mental states. The return of dissatisfied surgical patients frequently means the mental side of the case has not been properly appraised.

Doyle in his excellent paper cites a number of cases which illustrate the rather common incidence of the neuroses, and we hope he will return to us soon with the result of his experience in this and allied subjects.

DOCTOR DOYLE (closing) — Modern medical teaching makes little provision for instruction in psychiatry. What little information is offered deals with Kraepelin's conceptions of the psychoses. The psychoneuroses receive almost no attention. The recent development of the movement for mental hygiene represents the first step in an effort to popularize this much-needed information for the laity and the medical profession.

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**There is much searching for goiters these days** and much piling and compiling of statistics as to their frequency. From the nature of these statistics and from general observation we often wonder whether these students of goiter are always sure of a goiter when they see it, or whether any of us know just whether or when a goiter exists. Dr. A. S. Jackson of Madison, Wisconsin, calls attention in the Boston Medical and Surgical Journal of December 17, 1925, to the danger of adenomatous goiter. He says: "Although I have advocated and am continuing to give iodine in definite amounts in the prophylaxis and treatment of early colloid goiter, *I am not too well satisfied with my results.* I have one series of at least one hundred cases in which iodine has been administered over a period of two years with little or no appreciable effect." However, "the laity as well as the profession should realize that any adult who has a goiter and takes iodine does so with considerable risk. I believe that iodine should be dispensed only on the prescription of a physician."—Medical Journal and Record, March 17, 1926.

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**The number of new books printed last year** fell off by 26 per cent from the total of new titles in 1924. The number of book sales, however, jumped up 12 per cent. . . . A literary magazine places the number of short stories published in American magazines last year at over 20,000.—The Outlook.

# ETIOLOGY OF ECLAMPSIA

By P. O. Sundin *

*A review of the theories and conclusions of recent writers and investigators. The fact is emphasized that the cause of eclampsia is not yet definitely determined, but the consensus of opinion is that it is a general infection.*

Discussion *by G. Carl H. McPheeters, Fresno; J. W. Sherrick, Oakland; A. B. Spalding, San Francisco.*

AFTER carefully going over the recent literature on this subject, the reference to eclampsia as "the disease of theories" seems appropriate. That the cause is some sort of a toxin is quite generally stated, but of the nature and origin of the toxin we are still uninformed.

Supporting the toxic theory there is an abundance of evidence that focal infections are important factors in early abortions, toxemias of pregnancy, and eclampsia.

It was once supposed that the kidneys were the primary organs affected and that eclampsia, like uremia, had its origin here. Some now believe that there may be two forms of eclampsia—one known as the renal type, in which the kidney is the primary seat of the disease and the liver secondarily involved, and the second known as the hepatic type, in which involvement of the kidney is secondary to that of the liver.

Some endocrinologists recognize thyroid hypoactivity and insufficient secretion to take care of the increased metabolism in the liver as probably productive of eclampsia, a theory supported by the fact that patients with hyperthyroidism are made worse by pregnancy.

The symptoms of eclampsia, particularly the usual high fever in fatal cases, suggest systemic infection.

Kellogg has recently shown that patients suffering from toxemia of pregnancy are very prone to develop septicemia. In his experience, 14 per cent of toxemics without convulsions and 25 per cent of toxemics with convulsions developed septicemia, irrespective of the method of delivery.

Kosmak in his recent review on the pathology of toxemias has shown that the characteristic lesions in many different organs are minute hemorrhages. He says: "Eclampsia characterized by local cell degeneration and necrosis, as a result of thrombosis of the small vessels, is represented by eclampsia with or without convulsions. Subcapsular hemorrhages are common. The capillary vessels of the kidney show stasis, and many contain actual thrombi. Infarcts are present in the kidney, and are due to the migration of emboli from other organs.

"Although kidneys and liver present the most frequent and characteristic pathological changes at autopsy, almost all of the organs may be more or less involved. Hemorrhages may take place into the lungs, pleura, pericardium, cranial cavity and brain, gastric mucosa, peritoneum and skin." Polak reports pathological renal changes in 98 per cent of 139 autopsies of eclampsia. Young and Miller have come to the conclusion that infarcts in the placenta is the causative factor. Also that in a definite number of instances early degeneration of a piece of placenta whose circulation has been interfered with may be the cause. The final conclusion of Young and Miller and some other investigators is that "the white placental infarct is the end-result of a hemorrhagic lesion by coagulation necrosis, the condition is often multiple and may repeat in the same placenta. There is clinical and histological evidence that the primary lesion is the result of hematogenous infection, generally found to be the teeth and tonsils. In other words, chronic sepsis is the primary cause."

Fritz Sachweh emphasizes the fact that during the second half of pregnancy nitrogen retention and hyperacidity of the blood are present, so as to suggest a change in the protein metabolism, i. e., protein ingestion in the food is not oxidized to the same degree as in non-pregnant women. Fats also are oxidized only to a limited degree, whereas the carbohydrates are used up completely.

Considering these facts, he suggested the hypothesis that the development of eclampsia is favored by an overabundance of meat and fat in the diet toward the end of pregnancy. Experiences during the war demonstrated that the best prophylaxis of eclampsia consists in restricting meat during pregnancy.

From an endocrinological point of view, Massaglia's study of the hypofunction of the parathyroids in cats and dogs seems to prove that substances commonly neutralized by parathyroid action reach the kidneys unchanged and produce renal injury, ending in nervous derangements, and even tetany. He comes to the conclusion that the parathyroids assist the liver in neutralizing intestinal poisons, especially those which come from a meat diet.

John E. Talbot has shown, not only that the placenta infarct is the result of hematogenous infection of the placenta site, but also that the foci of chronic septic infection forms the basis of much of the pathology of toxemias. His conception is that the processes involved are the same as those involved in the production of all infectious diseases. He suggests that in pregnancy the potential power of the whole metabolic system is under a strain, whereby derangement of the necessary balance between the organs of metabolism is more readily reflected, and symptoms are found which are common only in the late results of a more chronic disease process, such as chronic nephritis. He adds: "It is possible that there may be hemorrhagic lesions in both the placental site and other organs, and scattered throughout the body on the principle of hematogenous infections." He is convinced that the toxemia of pregnancy is almost never the result of a single acute infection of short duration, and regards its conception sufficiently broad to embrace the many different types. This conception, that the disease is a systemic infection, is consistent, not only with the pathology, but also with the clinical picture.

In reviewing the observations of James J. Gilmore we find that, in 29 pregnant women in whom

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anemia could not be otherwise explained, 26 had definite pus pockets. In sixty-six cases of early toxemia, with nausea and vomiting, 31 patients had tonsillar infection, 16 had apical abscesses, and 6 had both of these conditions. In other words, 80 per cent had a focus of infection. And again, in a series of fifty-seven cases of abortion and miscarriages unaccounted for by any other cause, 27 patients were found to have infected tonsils, 7 infected teeth, 1 had both types of infection, 1 an acute sinus infection. Dead fetus in uterus was found nine times when the condition could not be accounted for, save for a blood-born infection. Of these 8 had diseased tonsils or teeth, and 3 had both. In two instances a positive culture was obtained from the amniotic fluid, and 1 from the fetal heart blood. In forty-seven cases of pyelitis observed during pregnancy and puerperium, 27 patients had infected tonsils, 6 had abscessed teeth, 7 had both. In a total of sixty-one cases showing increased blood pressure with albumin and casts, but without toxic symptoms, 70 per cent had a definite focus of infection.

I am satisfied that if we guard our patient well by insisting upon bi-weekly, and in the last month of pregnancy, weekly observation, noting at these visits the condition of the urine, blood pressure, weight-gain, and the minor complaints, including constipation, edema, condition of the teeth and gums, as well as restriction of food intake, especially meat and foods high in protein, the number of toxic cases will be minimized.

Well-kept records will show a gradual rise in the blood pressure, for instance, before edema, abdominal distress, slight headache, nervousness, and insomnia are evident enough to attract the patient's attention to the general condition. Certainly, we should pay attention to the condition of the teeth, chronic local infection, and leucorrhea.

We know that the doctor who watches his patient and transmits his knowledge to the prospective mother, thereby decreases mortality and "convulsions out of a clear sky." We should not wait until the last weeks of pregnancy to obtain the patient's past history. A patient with a history of chronic nephritis certainly cannot stand the strain of pregnancy as well as one free from past ailments.

## CONCLUSIONS

The cause of toxemia of pregnancy is still undetermined. Clinically and pathologically, the evidences are that it is an infection. Chronic foci of infection are to be looked upon with suspicion. Excess protein intake and improper elimination favor this symptom complex.

## DISCUSSION

G. Carl H. McPheeters, M. D. (Mattei Building, Fresno, California)—We are indebted to Dr. Sundin for a clear résumé of our ideas of the etiology of eclampsia.

In commenting upon the causes which seem to lie back of an eclamptic condition, I desire to emphasize the fact that most such patients are poorly prepared for the responsibilities of pregnancy. They are anemic, overweight, under weight, neurotic, poorly developed, afflicted with serious menstrual irregularities, handicapped by focal infections, including those of the urinary tract; or some combination of these conditions before pregnancy began. These facts support another argument for prenuptial examinations and corrections of conditions calculated to interfere with motherhood of all women before marriage, or at least before pregnancy wherever possible.

I specially like the emphasis Sundin places upon thorough physical examination of pregnant women, and upon the office visits which the patient should make every week or two weeks for observation and advice. Most patients co-operate well when we explain the what, why and how of the road they must travel. Very few patients indeed develop eclampsia who are under close, careful observation as outlined by the author. I believe eclampsia is a complication of pregnancy due to infection, and the toxins produced by such infection.

J. W. Sherrick, M. D. (350 Twenty-ninth Street, Oakland, California)—Careful consideration of the etiology of eclampsia results in a number of interesting theories, some of which are rather bizarre, others important enough to warrant further investigation. There are so many factors involved, with resultant strain upon the patient's physical condition and upon her nervous system. The mother's metabolism is so extremely altered by this physio-pathological process of pregnancy that it seems unwise to attempt to explain the different manifestations on the basis of any one of the theories advanced. Every obstetrician appreciates the added strain that foci of infection throws upon the organism and the importance of carefully directed and prolonged prenatal care, eliminating every pathological factor and influence possible. But there are so many conditions in our complex life that militate against a normal pregnancy and leave the patient anemic, under par physically with little physical and nervous system reserve, that I do not feel that the real cause of eclampsia can be ascribed to infection. Rather, it seems just one of the more important associated factors that serve to throw the balance against the defense powers of the maternal organism. I do want to emphasize the absolute necessity of anticipating and dealing with these foci of infection, but I feel that there is still some unknown toxic element working through these more tangible influences.

A. B. Spalding, M. D. (Stanford Hospital, San Francisco)—Doctor Sundin has reviewed in a very interesting way some of the theories as to the causation of toxemia of pregnancy. There seems to be an association of focal infections to toxemia, but very little has been brought out to prove that these focal infections do more than influence the prognosis of the condition. We are still ignorant as to the primary cause.

It seems to me that more progress could be expected from a well-organized study of the post-toxic patient. This is a very difficult line of research, because the patients so frequently fail to co-operate.

From our limited experience at Stanford Medical School, the test for renal function devised by Dr. Thomas Addis seems to give a fairly good prognostic indication as to the probability of toxemia in future pregnancies. I believe before the toxic patient deliberately attempts a succeeding pregnancy she should at least have a thorough study of her kidney function and, if possible, a more difficult study of her liver function. In the non-pregnant state it is undoubtedly wise to remove from the patient all sources of focal infection.

Doctor Sundin (closing)—I wish to thank Drs. Spalding, McPheeters, and Sherrick for their interesting discussion of my paper. Apparently, all agree that, since the cause is unknown, prenatal care is our best weapon of defense for the present. We hope that the question of etiology of eclampsia will soon be settled.

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**Dr. Charles M. Wharton,** in charge of health and physical education at the University of Pennsylvania, thinks that the "daily dozen" and reducing and starvation diets are downright "assaults" on health. "The latest fad in the name of physical culture, the early morning exercise by radio, is bad," Wharton said recently, "as it selects the worst time of the day for heavy exercise. Someone should call a halt against this wild scramble for health by unnatural means," he added. "This indiscriminate adoption of severe physical training destroys the health of more people than it improves."—San Francisco Argonaut, April 1, 1926.

## - BEDSIDE MEDICINE FOR BEDSIDE DOCTORS -

An open forum for brief discussions of the workaday problems of the bedside doctor. Suggestions for subjects and discussants invited. Useful extracts from letters will be published.

### THE PRACTICABILITY OF RADIOLOGICAL VISIBILITY OF THE GALL-BLADDER: ITS AVAILABILITY, INDICATIONS AND VALUES TO THE FAMILY DOCTOR

**The Editor**—That improved radiologic technique gives evidence of value in the diagnosis of gall-bladder trouble seems amply demonstrated. Many careful radiologists are seriously engaged in efforts to still further improve and simplify current procedures, and the growing literature seems to imply progress.

The tremendous value to thousands of patients of thus adding to our diagnostic procedures positive evidence where conclusions formerly were perforce arrived at by indirection is, of course, obvious. But this is not enough: the technique must be simplified until it is far more widely available than now, and the costs of the effort must be reduced before this valuable contribution can be made available to or paid for by the average patient.

That the vast majority of physicians have so far taken little interest in this live subject, is indicated by the fact that, of the many who were invited to discuss the subject here, all except those well known for their radiologic experiences declined to take part in the discussion, usually giving as reasons that they knew nothing about it or had had no experience.

Well-equipped radiological laboratories and competent radiologists are well distributed in California, and with the clear résumé of our knowledge of the value of radiologic methods here set forth, it is likely that the interest of physicians may become more general.

The invitation for suggestions for subjects for *Bedside Medicine for the Bedside Doctor* is a standing one.

**W. W. Boardman** * (350 Post Street, San Francisco) — The realization that many of the gastro-intestinal upsets seen in routine clinical work and so easily dismissed as nervous indigestion, flatulent dyspepsia, etc., are in fact the reflex manifestations of chronic gall-bladder disease, has led to efforts to develop special means of arriving at an early and accurate diagnosis of such disease. Among the various measures proposed, we may mention, in passing, the careful analysis of the inaugural symptoms and signs, the Lyons' method of studying the duodenal content, and the various liver function tests, but we wish at this time to consider only the radiographic procedures—their practicability, availability, indications, and value.

A complete radiographic study of the gall-bladder should include (1) several films of the gall-bladder region, usually after thorough emptying of the gastro-intestinal tract, followed by (2) a study of the gall-bladder region we may discover shadows of tetraiodophenolphthalein, either by mouth or intravenously, and (3) supplemented by a careful barium-meal study of the entire gastro-intestinal tract.

From such an examination certain positive and negative evidence may be derived. In the first films of the gall-bladder region, we may discover shadows characteristic or suggestive of gall-stones, or we may find a more or less definite shadow of the gall-bladder. The significance of this latter finding is open to some question, although it has been thought by some to indicate a pathological gall-bladder.

Our interest at present is especially fixed on the tetraiodophenolphthalein test. This consists of the oral or intravenous administration of tetraiodophenolphthalein which is excreted in the bile, is normally concentrated in the gall-bladder, and, owing to the iodine ion which it contains, the density of the gall-bladder contents becomes sufficient to cast beautiful shadows in the radiograph. Films are taken at certain stated intervals after the administration of the dye, and then compared. From these films we are able to study the filling, concentrating function, and emptying of the gall-bladder, as well as the size, shape, position, outline and density of the shadows, and its relationship to other adjacent shadows. Following such a test we may find three results: (1) A perfectly normal reaction, which indicates a normally functioning biliary system; (2) an absolute failure to visualize the gall-bladder, which indicates marked disturbance in function, in that the dye failed to enter the gall-bladder in appreciable quantities; or (3) an incomplete visualization, which indicates some disturbance in biliary tract function, in that the gall-bladder did not normally fill or normally concentrate or normally empty.

In interpreting these findings it must be kept in mind that the test is primarily one of function. It is therefore conceivable that a mildly diseased biliary tract may show normal function and that a normal tract, because of various reflex disturbances, may show abnormal function. However, the evidence so far at hand seems to indicate that a normal reaction excludes gross pathological changes and that a partial or complete failure of visualization indicates mild or severe pathological changes. These changes will usually be found in the cystic duct or gall-bladder, and may consist of obstructions of the duct, thickening of the gall-bladder wall, loss of epithelial lining, or a lumen filled with stones. It must be emphasized that an incomplete visualization after the oral administration may result from faulty intestinal absorption rather than from disturbed biliary tract function. Little importance can therefore be attached to such a test, unless it be repeated by the intravenous method.

The oral method of administration may be used routinely for ambulatory patients, although it is occasionally followed by mild reactions, consisting of nausea and vomiting. The intravenous method requires careful preparation and technique, and should preferably be a hospital procedure. It must be kept in mind that the intravenous administration of any of these foreign dyes is always attended with a certain danger, and, although as yet no reports of serious consequences after the use of this

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dye have appeared, it is not a procedure to be used indiscriminately in office practice. The reactions so far encountered have been few in number, mild, and of short duration, but nevertheless I would advise hospitalization until further experience has demonstrated its safety as an office procedure.

Finally, the routine barium-meal study will frequently show evidence of pressure or adhesion, deformity of the antrum or cap, presumably the result of gall-bladder disease. Another finding of some value is a high, fixed hepatic flexure. The functional disturbances in motility are of slight diagnostic importance, but the positive demonstration of other lesions of the stomach or bowel is of great value.

From this review it is evident that we have at our disposal means of studying the size, shape, position and outline of the gall-bladder, its filling, its concentrating function and its emptying, as well as any variations in the density of its shadow. We can also, in the occasional case, definitely demonstrate gall-stone shadows, and in others strongly suspicion their presence, and we can finally demonstrate the presence of adhesions or pressure from the gall-bladder upon the antrum duodenum and hepatic flexure of the colon.

The most careful technique is necessary in obtaining this evidence, and skill, experience and conservatism are absolutely essential to a proper interpretation of the findings.

The positive and negative evidence so obtained is of the greatest diagnostic value, if carefully correlated with the evidence obtained from the history, physical examination and other special tests, so as to build up a composite picture of gall-bladder disease. Without such careful correlation, serious diagnostic and therapeutic errors may be made.

**Walter C. Alvarez** * (Mayo Clinic, Rochester, Minnesota, formerly of San Francisco) — I have been using the Graham technic in my office for some time, but have not yet made up my mind as to its value. There is no question that it is helpful to have the gall-bladder visualized for us; and occasionally stones become apparent—stones which otherwise would not have been seen. It is helpful also to know that a particular gall-bladder does not fill with the dye, but, as is the case with all negative evidence, we cannot rely entirely upon it as a sign of disease.

I recently had a talk with Dr. Carman of the Mayo Clinic, who has probably had the largest experience of anyone with this technic. After using it on several thousand patients he has come to the conclusion that it is of distinct value in the diagnosis of gall-bladder disease. He admits that the failure of the organ to fill does not always mean an abnormal-looking gall-bladder at operation; and he has seen many diseased gall-bladders which filled well; but on the whole he thinks that this procedure will help us a good deal.

He has found that there is no need for giving keratin or salol-coated capsules, and I have confirmed this finding. The important point made by Carman is that the bromin salt is by far the best to give by mouth, and the iodin salt is the best to give intravenously. At the Mayo Clinic they always give the bromin salt first by mouth. Some patients are nauseated; quite a few have diarrhea; and occasionally one is quite sick; but there is never anything worth worrying about. The dose is graduated according to the weight of the individual. In my office we always give the patient half a grain of codein, which he can take if he develops cramps or diarrhea.

We have found that, with an office practice, it is best to give the salt about 8 o'clock in the evening. The patient then returns at 10 the next morning for a series of plates. Some physicians take plates again after eighteen and twenty-four hours, but we have not found this practice sufficiently worth while. The patient must not take breakfast in the morning, because that causes the gall-bladder to empty. If the gall-bladder shows up well, nothing more need be done; but if it should not fill, then we may give the iodin salt intravenously in order to make still surer of the findings. Actually, I have never done that because, as Dr. Boardman says, the reactions are sometimes severe, and there are a number of cases on record in which, in spite of the utmost care, the vein in the arm became thrombosed and badly inflamed. In some patients it even had to be cut out. As one such harrowing experience would be quite sufficient to cure one of using this technic, I have never had the courage to begin, and instead have waited for those with large hospital services to experiment and to get, perhaps, a better drug and a better technic. Unless they do succeed in that the procedure will always have but a limited application.

Whatever comes of it the diagnosis of gall-bladder disease will probably always depend mainly as it does now—on the careful interpretation of a well-taken history.

**H. J. Ullmann** * (1520 Chapala, Santa Barbara)—After more than a year's experience with

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* **H. J. Ullmann** (1520 Chapala, Santa Barbara, California), M. D. Rush Medical College, 1912; S. B. Univ. of Chicago, 1910. Graduate Study: Internship Presbyterian Hospital, Chicago. Practice limited to Radiology since 1917. Previous honors and services: World War, June 1, 1917-August 20, 1919. Discharged with rank of Major M. C. Commander Santa Barbara Post No. 49 American Legion 1924. One time Radiologist St. Joseph's and Childrens' Memorial Hospitals, Chicago; Assistant in Medicine, Rush Med. Col. 1914-20. Hospital connections: Radiologist Santa Barbara Cottage Hospital. Present scientific organizations: Fellow Am. College of Radiology, Member Amer. Radium Soc., Am. Roentgen Ray Soc., Radiological Soc. of North Am., Pacific Coast Roentgen Ray Soc., Southern Calif. Med. Soc., Institute of Medicine of Chicago, Am. Assoc. Advancement of Science. Present appointments: Lt. Col. Med. Res. U. S. Army. Publications: "The Application of the Sphere Gap to Roentgenotherapy," Am. Jour. Roent. Ap. 1921; "Standardization of Dosage Factors," Jour. of Rad., June, 1922; "Bacteriology of Irradiated Tonsils," Am. Jour. Roent. and Rad. Ther., May, 1923, and many others.

the use of the halogen phenolphthaleins in visualizing gall-bladders, we have come to the conclusion that it is of distinct value, but there are many points that must be borne in mind in making an interpretation of the findings. This is especially true now that the dye is usually given by mouth. We have tried nearly all the different methods—coated and uncoated capsules and pills—and have had the most constant success with a method originated by Menees, somewhat modified. Our capsules are the ordinary gelatine capsule hardened for two hours over formalin, that is, in the formalin vapor. A thick paste of tetraiodophenolphthalein sodium salt is then made with olive oil. It is essential that the olive oil be neutral or alkaline; some of the olive oils are distinctly acid, and this ruins the solubility of the salt. In order to protect against this we add between one and two grains of sodium bicarbonate to each capsule. The capsule contains approximately six grains of the dye, and we use from ten to sixteen or eighteen of these capsules, depending on the weight of the patient. The patient is instructed to take them, beginning at 8 p. m., two at a time every fifteen minutes, and to wash them down with half a glass of water containing a little soda bicarbonate. They appear for their first x-ray at 9 a. m. in the morning without breakfast. They then eat breakfast of a cereal, toast, and coffee or tea, as they wish, and two hours after breakfast another film is taken. A third examination is made late in the afternoon, and again the following morning, providing the gall-bladder was visualized at the other examinations.

The first film is a 14 x 17, and must cover the entire abdomen so that it can be determined whether the dye has been absorbed or not. If it has not been absorbed it will be found scattered along the colon. Unopened capsules show up very distinctly. If it is evident that there has been little or no absorption, the examination is repeated in a day or two, the patient being instructed to take a good dose of compound licorice powder twenty-four hours before taking the capsules. We have had gall-stones become visible after this procedure, when no results were obtained at the first try. If the gall-bladder is not visualized at the second attempt, we assume that it is abnormal; but we always state that, in order to make a positive statement, the examination should be repeated after an intravenous injection of the dye. This third attempt should be postponed for a week to prevent the possibility of the toxic effect. One cannot use the Graham criteria for abnormal gall-bladders when the dye is given by mouth, as there are too many other factors to be considered. However, if one remembers that non-absorption of the dye results in nonvisualization of the gall-bladder, and that the visualization, when it does fill, is not as distinct as after intravenous injection, a fairly accurate interpretation can be made in many cases.

I wish to emphasize at this point, however, the absolute necessity of intravenous injection where the examination was negative when the dye was given by mouth. If one wishes to base his diagnosis entirely on the roentgen findings, this method is extremely valuable and will become more so as time goes on and we learn what the variations in shadows mean. A thorough and searching history will frequently be of as much value as the use of the dye by mouth, especially if the gall-bladder does not fill. There is nothing that will shake one's ego so much as to make a positive report as to the condition of a gall-bladder, to find it entirely negative at operation.

**Howard E. Ruggles** * (Fitzhugh Building, San Francisco)—Cholecystography has now been tried for a sufficient length of time to permit of a fair estimate of its value.

In our hands it has been of the greatest value in demonstrating stones. With good technic practically all gall-stones can be visualized. This alone is sufficient to establish the method on a permanent basis. In addition, distortion of the gall-bladder by adhesions is occasionally shown. The evidence of abnormal function is less definite, but perhaps increased experience will improve our results in this direction.

The iodide salt is preferable and should be administered in plain gelatin capsules containing 7½ grains each. Three such capsules may be taken every half hour after an ordinary dinner until the full dose has been ingested. The dosage is 5 grains of the dye to ten pounds of body weight.

Films are made at 15, 18, and 20 hours after taking the capsules. No food is allowed until after the eighteen-hour film, when a meal containing considerable fat is ordered.

The fifteen-hour examination usually shows a large and rather faint shadow, which is smaller and more dense at eighteen hours and very small or absent at twenty hours. Grossly pathological gall-bladders either fail to appear or are represented by faint outlines of approximately constant size and density. Stones are quite readily seen as mottling within such a gall-bladder or as single or multiple "holes" in the iodine shadow. If the gall-bladder is not seen the examination should be repeated, and if the second attempt is likewise negative, gall-bladder disease, a blocked cystic duct, or gross liver pathology should be suspected.

Intravenous injection is troublesome and unnecessary in most cases.

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**Judging by the expressions of opinion that I have heard from patients about the group method of practice, its greatest defect lies in the feeling of the patient that he has missed a personal interest in himself, and that he suspects that he has not quite understood the results of his examination and has but vague ideas of what it is intended that he should do, largely because no single individual of the group has spent sufficient time considering him and talking to him as a whole organism needing new adjustments. As I myself have subsequently seen patients who have gone to a group for diagnosis, these misgivings of the patient often seem justified.—Henry A. Christian (Journal A. M. A.).**

# CLINICAL NOTES AND CASE REPORTS

## CARCINOMA WITH HEMATURIA

### CASE REPORT SHOWING CONSEQUENCES OF PYELOGRAPHY

*By* WALTER G. SCHULTE
*(From the Urological Service, Holy Cross Hospital, Salt Lake City)*

Frank uremia, with high blood urea and creatinin, is rare following pyelography. Therefore, I am reporting the following case, with a comment on the rapid change in the blood urea after large doses of normal saline subcutaneously.

Patient, a well-nourished male, age 36, weight 176, came to the hospital November 30, 1925, complaining of abdominal soreness, aggravated by pressure, of two weeks' duration, and a peculiar "firmness" across the epigastrium. Accompanying the soreness has been flatulence, which was relieved by taking frequent cathartics. Abdominal distress keeps him awake at night, and is aggravated by eating. Previous to present attack, considered himself well. Is constipated now, but this is unusual. Has lost ten pounds in weight.

On November 29, noticed his urine was bloody. This has persisted. He has had a painless enlargement on left side of scrotum for ten years, dating from an injury. When examined by army doctor in 1917, condition was said to be hydrocele. Operation was advised. At present time feels strong, and is up and aboutward. Worked till the day before admission. No other significant data obtained from family or previous history.

Abdomen contains a large irregular mass extending on right side down to iliac crest, and on left side to level of navel. It is nodular and moves freely with respiration. No localized area of tenderness. Dullness continuous with that of the liver. Rest of abdomen seems rather hyperresonant. No shifting dullness in flanks. Large fluctuating mass in left scrotum. On transillumination, testicle appears in upper posterior part of sac. Fluid aspirated. It is clear. Testicle found to be slightly enlarged, firm and nodular. Cord shows enlargement and is not freely movable. Urine on three successive days loaded with blood. Specimens were unsatisfactory for examination. Stool examination negative. Hemoglobin, 85 per cent; red blood corpuscles, 5,000,000; white blood corpuscles, 15,000; polynuclears, 90 per cent; S. L., 7 per cent; L. L. 3 per cent.

Roentgenologist reports: "Unable to demonstrate any abnormality of G. U. tract. Kidney outline seen distinctly on right side. There is a large shadow, conforming closely to liver outline, in upper right quadrant extending down to iliac crest. This produces a definite pressure defect at hepatic flexure. Stomach normal. Mass in upper right quadrant probably metastatic neoplasm of liver, although a retro-peritoneal neoplasm must be considered."

A tentative diagnosis was made of primary carcinoma of the left testicle, with metastases in liver and possibly in the kidney, although pressure of the liver on the renal circulation was thought of as a cause for hematuria.

On December 7, in an effort to determine the origin of the hematuria and to differentiate the tumor mass, a cystoscopic examination and pyelogram were made with the following report: Bladder wall normal. Blood is seen coming from left ureteral orifice; none visible at the right. Bloody urine collected from catheter in left ureter. Specimens taken for culture. Laboratory report: sterile urine. With a plungerless syringe and under little more than gravity pressure, 5 cc. of sodium iodide were injected into each kidney pelvis and pyelograms made, which were reported as follows by the roentgenologist: Right kidney slightly larger than left. It shows a deeper pelvis. Calyces are not completely filled, but believe this due to pressure rather than intrinsic disease. Practically no iodide solution in left kidney.

We concluded that we were dealing with a primary carcinoma of the left testicle, with metastases in the left kidney and the liver. A Von Pirquet test was negative.

On returning to ward, patient complained of pain in small of back, worse on left side and radiating to left groin. Morphine, ¼ grain, was without effect. It was repeated twice before midnight, and a hot tub bath given before there was relief. He drank water freely. Later in the evening, vomited some bile-stained fluid. Spent very restless night because of severe pain. No urine passed during the last eighteen hours. The following morning an enema was given and expelled with great difficulty. Patient unable to walk to bathroom. Still complained of pain in small of back. Had not voided, so he was catheterized but no urine obtained. No dullness on percussion over bladder. At noon was catheterized again without result. The next day, the 9th, patient was restless and drowsy. Ate little breakfast. Pain absent except when he changed position in bed. Had not urinated and was sweating profusely. Perspiration had a urinous odor, and breath an acetone odor. Drowsy condition deepened and was accompanied by hiccoughs. On the 10th, one liter normal saline solution was given subcutaneously in lateral pectoral regions, to stimulate kidney function. Saline solution, 500 cc. repeated the same afternoon. Patient was comatose and breathing very heavily. Bloody urine was voided involuntarily. Blood urea at this time was 144 mg., and creatinin 6.5 mg. per 100 cc. of blood. Coma deepened till patient was roused with difficulty. Developed Cheyne-Stokes respiration. Normal saline, 3000 cc., given subcutaneously during the day. About midnight patient urinated involuntarily. He became conscious and took fluids by mouth. A complete record of the urinary output could not be kept because of the involuntary micturition. By noon of the 11th his condition was much better and his mind clear. Appetite improved, and he had less incontinence. Bowel completely under control. On the 13th the blood urea had dropped to 78 mg., and creatinin 3 mg. Involuntary urination only during sleep. He was losing weight rapidly, in spite of a fair appetite. His general condition grew worse, the abdominal mass increasing in prominence. On the 19th blood examination showed urea 63 mg., and creatinin 2.1 mg. His appetite failed, but his fluid intake continued satisfactory. He complained of severe pain in the upper abdomen, which required morphine daily. On the 23rd, or twelve days after the coma, and sixteen days after the cystoscopy, the blood chemistry was urea 54 mg., and creatinin 1.5 mg. The tumor mass was growing rapidly and the pain increasing in severity. He died on December 28.

At necropsy there were some old adhesions at the base and side of the right lung, partially obliterating the pleural cavity. The mediastinal and peribronchial glands were enlarged and carcinomatous. There was a large carcinomatous gland at the head of the pancreas. The liver weighed 18.5 pounds, or about 8400 grams, and was thickly studded with carcinomatous masses, being a fusion of nodules. The left kidney was slightly larger than normal, soft, and hemorrhagic. Its pelvis contained a small calculus of sodium urate and some free blood. The left testicle was normal and surrounded by a thickened tunica vaginalis, which contained clear hydrocele fluid. The primary seat of the carcinoma was not definitely determined.

*Comment*—A preliminary study of the blood urea and creatinin was not made, but the patient's general condition was good and he was considered a safe risk for cystoscopic examination. The pyelograms were made after injecting the kidney pelves with a 12 per cent solution of sodium iodide combined with a 1-3000 mercuric iodide. Using the plungerless syringe devised by J. R. Caulk, and under slightly more than atmospheric pressure, each kidney pelvis was injected with 5 cc. of solution, without discomfort. The patient left the table in good condition. The chart shows that no urine was voided during the rest of that day, nor the next two days, and the patient became drowsy and gradually lapsed into coma. At this time the blood chemistry was typical of uremia. After injection into the lateral pectoral regions of 1500 cc. normal saline, the condition improved somewhat and some bloody urine was voided. During the next forty-eight hours, 3000 cc. were injected in the

same region and the patient became rational. The two subsequent examinations of the blood show a very rapid fall in urea nitrogen from 144 mg., and creatinin 6.5 mg. to 54 mg. and 1.5 mg., respectively.

The criticism, may be offered that a bi-lateral pyelogram should not have been made, but this is the established practice at many hospitals and has been my custom during the last year, with no untoward results.

The autopsy showed the right kidney to be normal, and a diffuse nephritis with hemorrhage and a small urate calculus in the pelvis of the left kidney. There was no evidence of injury to the kidney pelves from the injection, so we are at a loss to explain the uremia. The patient's death was due to carcinoma, metastasis in the liver and the mediastinal glands, with its primary focus not definitely determined.

I wish to acknowledge the assistance of J. P. Kerby, roentgenologist, and H. R. Welch, intern at Holy Cross Hospital.

## ACUTE LYMPHATIC LEUKEMIA

### REPORT OF A CASE WITH AUTOPSY FINDINGS

JOHN J. TOBINSKI, M. D., *Los Angeles*

*History*—Male, age 35 years. Family history negative. Usual diseases of childhood. No other serious illness except a duodenal ulcer, for which a gastro-enterostomy was performed in 1914 with uneventful recovery.

*Present Complaint*—Onset January 14, with chills, fever, and general aching sensation all over body, accompanied by some localized pain under the left rib margin in the hypochondriac region. Temperature, 102; pulse, 100. Examination revealed tenderness of entire left rib margin from the xyphoid cartilage to the lumbar spine. Pain was increased by respiration. A slight friction rub was noticed from the seventh to the ninth rib along the left sternal margin. Further examination was negative except for a slight glandular enlargement throughout, and slight abdominal distention. The skin was sallow.

From January 14 to January 21 there was no change in the patient's condition, except an increased restlessness. Diagnosis on this date was "diaphragmatic pleurisy."

January 21—Patient admitted to hospital; temperature, 99; p. m. temperature, 100; pulse, 112.

A slight swelling was noticed in the left hypochondriac region; radiologic report negative.

January 22—A definite tumor-like mass about 5 cm. in diameter was palpated in the left hypochondriac region; Widal and examination for malarial parasites were both negative.

January 23—Red blood cells, 3,500,000; leukocytes, 364,000; myeloblasts, 72 per cent; small lymphocytes, 15 per cent; polymorphonuclears, 12 per cent; eosinophiles, 3 per cent. No basophiles or nucleated red cells.

January 24—The abdomen more distended. The splenic enlargement had increased, and the axillary glands a little more swollen. The patient complained of difficulty in breathing and some headache, with increased restlessness. He refused nourishment. Red blood cells, 3,200,000; leukocytes, 320,000; hemoglobin, 45 per cent (Dare); myeloblasts, 78 per cent; polymorphonuclears, 12 per cent; small lymphocytes, 8 per cent; and eosinophiles, 2 per cent.

January 25—Patient had a fairly comfortable day. Slept at intervals. The pain in the left side continued. X-ray treatment over spleen and long bones commenced.

January 26—Patient was somewhat irrational, slightly cyanosed, and complained of severe pain in the left side. Red cells, 3,000,000; leukocytes, 297,000; myeloblasts, 70 per cent; polymorphonuclears, 16 per cent; small lymphocytes, 7 per cent; eosinophiles, 5 per cent; basophiles, 2 per cent; hemoglobin, 35 per cent. A few microblasts were found.

January 27—Condition more impossible; extensive cyanosis; pulse rapid and thready; extreme restlessness, with profuse diaphoresis. Red blood cells, 2,900,000; leukocytes, 308,000; myeloblasts, 62 per cent; polymorphonuclears, 14 per cent; small lymphocytes, 20 per cent; eosinophiles, 4 per cent, and a few normoblasts; hemoglobin, 25 per cent.

January 29—Patient markedly delirious. At times unconscious. The cell count showed 293,000 white; 2,200,000 red; myeloblasts, 73 per cent; polymorphonuclears, 32 per cent; small lymphocytes, 5 per cent; no eosinophiles. Normoblasts increased with a few basophiles. Hemoglobin, 25 per cent.

January 30—Patient expired at 2.25 a. m.

*Necropsy Notes*—No adenitis. Muscle tissue red in color. Liver extends 8.5 cm. below tip of ensiform cartilage and to 10 cm. below costal margin right nipple line, to cartilaginous attachments of sixth rib on the left side; shows fatty degeneration; measures 25 x 21 x 12 cm.; weight, 2500 to 3000 gms.

Spleen, adherent to adnexa, measures 20 x 12 x 11 cm.; weight, 4½ pounds. Capsule adherent; substance cuts without resistance; outer portion hemorrhagic to a depth of 5 cm.; remainder of substance grayish-white, with prominent Malphighian bodies. Pericardial sac contains about 90 cc. of clean straw-colored fluid; left auricle and ventricle contracted; right auricle and ventricle relaxed. Muscular wall of left ventricle, 1.8 cm., and right 0.6 cm. in thickness. Weight, about 300 gms. No sclerosis of coronary arteries. Post-mortem clot in right auricle and ventricle. Peribronchial glands enlarged; anthracosis marked; hypostatic congestion of left lower lobe. Thymus persistent. Right suprarenal of normal size; left, twice the size of right, with considerable congestion and petechial hemorrhages into medullary portion and cortex.

Kidneys—Cortices thickened; pyramids enlarged; multiple punctate hemorrhages into surface areas. No apparent structural change in the pancreas.

Anatomic Diagnosis—Acute splenic leukemia.

*Summary*—This case presents interesting phases, evidenced in: 1. Sudden onset, the patient having been previously well. 2. Symptoms were referable to the spleen; diagnosis was made by blood count. 3. Duration of illness very short; only two weeks from onset to death. 4. Daily intensification of the disease, as evidenced by the changing blood picture. 5. X-ray therapy of no avail, because the disease was progressing too rapidly. 6. Necropsy picture much like that of an acute infectious disease.

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**The high mortality of acute obstruction of the small bowel** is due to delay in operating. In primary cases this delay is due to doubt as to the diagnosis on the part of the practitioner; and this doubt is traceable, almost solely, to the defective (or entire absence of) description of the early stage symptoms found in the textbooks of medicine and surgery in use by students and practitioners. 2. The three symptoms—pain, vomiting, and constipation—verified by the enema test, alone, warrant a diagnosis of some form of obstruction. 3. It should be emphasized that stercoraceous vomiting, distention, rapid feeble pulse, and symptoms of collapse belong not to the early stage, but to the late moribund stage of intestinal obstruction; and that the welfare of the patient demands that a diagnosis should be made before the appearance of these symptoms. 4. Some decrease in mortality will follow from improvements in therapeutic methods, especially the more frequent use of enterostomy in the secondary and in the late primary cases, but a large decrease can only come from earlier diagnosis and operation.—James McKenty (Canadian Medical Association Journal).

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**No man, of course, should attempt medicine** unless he is willing to have troubles brought to him, be bothered, and hear tales of woe, for every patient has one. I can scarcely believe that the same sense of responsibility can be felt by the individual physician in a group system, when a patient reaches his domain in making his medical journey, as is undertaken when a patient is assigned to some physician who, with the joint action of such associates as he may choose, undertakes to find out what is wrong with the patient and set him straight.—Hugh Auchincloss (Journal A. M. A.).

# EDITORIALS

## "ON MAKING THE WORLD BETTER"

It is significant of the trend of the times that after a year's service as president of the California Medical Association, with all the complex problems that such an honor entails, Edward N. Ewer should choose the above title for his retiring presidential address. A stirring, sane, thoughtful address it is, filled with the wisdom that comes only with experience, and reflection from a mind and heart attuned to the call of his fellow-man for guidance.

President Ewer projects a sane vision when he says: "There is a growing feeling in medical organization circles that medicine as a profession is in danger of being swallowed up by the great American service movement which James M. Cain describes as a disease, an itch to make the world better. There are several thousand of these associations in existence. A surprising number of them have for all or part of their programs the almost forcible bestowal of some form of medical service upon a people who would value it more if they were taught to seek it and pay for it."

The swallowing process is more advanced than many physicians realize. It is probably conservative to state that more than half the population of the country are now entitled to "free" medical care and an incredibly large number are entitled to it from more than a dozen sources. Most people have not availed themselves of such government bounty, and it is not likely that they will so long as the traditions, skill and spirit of service that have ever characterized the work of physicians is maintained.

It is not the charity taught and exemplified in the life of Jesus of Nazareth to which President Ewer objects, but systematized, organized charity as a business that is being stuffed down peoples' throats by paid agents of government bureaus and hundreds of organizations in active competition—pathological charity—that is dangerous to society. Alleged medical and welfare services are being promoted and sold by hundreds of organizations and mergers of organizations by methods and under the ethics used in other business enterprises.

President Ewer pays his respects to birth control, that measure formed by blinding ignorance, emotionalism, propaganda, and attempting to serve gas with spoons. No one questions the possible good that may be slowly evolved out of the scientific study of human breeding, but much that the public is being taught about it now is chimerical.

Doctor Ewer's address (on page 609) contains important messages for physicians, but it ought also to be read by intelligent individuals of the nonmedical public.

## "LOOKING BACKWARD WITH SATISFACTION AND FORWARD WITHOUT APPREHENSION"

The physician who feels himself growing weary, cynical, depressed by the sorrow and suffering, even the tragedies that show themselves naked in his daily life of service; who is disturbed by the clatter of cultists, the unspeakable exploitation of health for many, the ignorance, superstitions and unreasonable prejudices employed by shysters to sacrifice the health and lives of the innocent and helpless; who sees daily and hourly the frightful results of the machinations of honest but benighted uplifters and the dishonestly acquired luxury some of these classes have, will find a new tonic of lasting effect in the inaugural address of President William Taylor McArthur published elsewhere in this issue.

Who is this physician in whose abilities, honesty, integrity, and art the hope of human betterment rests? President McArthur defines him as one who

> "looks upon his profession as an honor. He takes pride and joy in his work. He feels that he is contributing to the welfare and happiness of man, and that he is helping to blaze and brighten a trail through a world of profound mysteries, making roads and building bridges through the swamps and morasses so that those who follow may pass safely over. His chief concern in life is to contribute to the betterment of the human race; to the relief of suffering, making life a bit sweeter and easier for others. He cheerfully joins with his colleagues in every line that tends to human progress. He is a pusher and lifter, not a leaner and trailer. He gives of his time and energy, and in the giving is the getter in a spiritual sense. He cherishes the ideals and traditions of his profession. To him such an heritage is a most valuable asset. The art and science in his work are never divorced but go hand in hand, with the art ever uppermost. By kind words and deeds and sympathy and unselfishness he keeps ever in tune with humanity's wave length. He looks backward with satisfaction and forward without apprehension. And when the end draws near his pillow is made softer by the knowledge that he has the love of his patients, the respect and esteem of his colleagues, and that his work in this life has produced dividends, deposited from time to time deep down in the inner chamber of his soul, the only dividends of value—the only dividends that will be honored by Time or Eternity."

But unfortunately there is another sort of physician whom Dr. McArthur so truly looks on as one

> "who is in the profession for what he can get out of it; his interest being purely selfish. The ideals and traditions of his forefathers never enter his mind. He has no use for the past; it is gone; and the future, he claims, had done nothing for him. He takes no interest in the humanitarian work of his confrères unless as an objector. He rarely attends medical meetings or engages in any work toward the betterment of his profession. Such things bore him. He uses the term "Doctor" as a commercial trademark or a cloak of social or scientific distinction.
>
> He attends to the call of suffering humanity as so much per in dollars. He must be assured of his pay before he heeds the call. The medical profession to him is simply a commercial enterprise. He values his work wholly from a monetary standpoint, and fashions his bill not from the ill or the pill or the skill or his time, but on the patient's ability to pay. He lives smug and independent, secure from the privations of want, yet dies in time from fatty degeneration of the soul."

After further analysis of some of the outstanding forces tending toward the advancement of medical art as well as those that are looking backward, President McArthur sounds a clarion note of optimism in this closing paragraph of his inspirational address:

> "I look forward without apprehension because I have complete confidence and faith that the great majority of men and women in our profession will keep in tune; will press onward and upward, light-

ing new lamps along 'our own trail, the out trail.' So long as there is life there will be sickness and suffering and need for the educated physician. May the heritage which we received from the men who 'bulk big on the old trail' be cherished and enriched, while in our possession, and passed on to those who come after us 'unimpaired in dignity, honor, and usefulness.'"

## THE EFFECTS OF LIGHT AND PHOTOTHERAPY

The beneficial effects of phototherapy have been attributed to a variety of factors ranging from the definitely physiological to the indefinite and psychological. Objectively the effects of light have been referred to changes in reflexes, cutaneous nerves, the blood, the general metabolism, etc. Pigmentation of the skin has been regarded as both beneficial and detrimental. There are those who have repudiated certain practices of phototherapy while acclaiming other practices with no better foundation. Investigations of physiologists have been as unsatisfactory as the opinions of clinicians. Probably insufficient attention to accuracy of dosage and inadequate controls have been at the bottom of the varied notions about the physiological action of light. These deficiencies apparently have been met in the recent investigations of Reed of the University of Chicago, who reports rather uniform and interesting results on the action of light in animals.

Using beams of light of from 100 to 1250 f. c., practically devoid of ultra-violet rays, which were projected into the eyes of dogs, Reed demonstrated a definite though variable and progressive fall of blood pressure. In general the percentage fall increased with the duration of exposure, reaching ultimately the shock level at the end of from three to four hours. The heart was generally irregular. Since the same changes occurred after section of the optic and vagus nerves, they were not of reflex origin nor due to central vagus stimulation. The changes still occurred after paralysis of the vagi endings. Extract of the optic nerves and retina caused no such effects. However, the coagulation of blood was increased, and therefore there were definite changes in this circulating tissue.

This was proven to be the case by irradiation of blood alone which was caused to pass through a quartz tube connected to a carotid artery. The returning irradiated blood caused the same changes in blood pressure as did the light in the eyes, and the coagulation increased so rapidly that it was necessary to employ the anti-coagulant, heparin, in order to carry the experiments to successful completion. This direct irradiation of the blood resulted in increases in its uric acid content up to 38 per cent, the blood at the same time appearing darker and sedimenting more rapidly than before. There was no doubt, therefore, of the physical and chemical changes in the blood, and Reed suggests that these changes are fundamentally the basis of the physiological effects of light.

Although Reed made no studies of the capillaries directly or of changes in blood volume, the blood pressure changes observed by him must be relegated to some alteration (probably increase) in the permeability of these vessels. The altered permeability of the capillary endothelium is apparently due to or associated with the physicochemical changes in the blood. Such a change in the capillaries and blood of the skin exposed to light would not be surprising, but it required a careful analysis on Reed's part, going from one factor to another, to arrive at a satisfactory conclusion.

This view of the action of light suggests a close analogy to the action of arsenic, a capillary poison, and the therapeutic benefits from and deleterious effects of this drug bear a similarity to those of light. Reed's demonstration of the physical and chemical changes in irradiated blood emphasizes the need of closer attention to the relatively unseen and small, if not hidden, things whose importance is increasing daily not only in phototherapy, but also in other branches of medicine.

Reed, C. I.: Am. J. Physiol., 1925, 74:511, "Studies on the Physiological Action of Light. II. Depression of Arterial Blood Pressure."

Reed, C. I.: Ibid., p. 518, "III. Effects on Arterial Blood Pressure of Direct Irradiation of Blood in Vivo."

Koch, F. C. and Reed, C. I.: Ibid., 1926, 75:351, "V. Increase in Uric Acid in Blood Irradiated Directly."

## DRUG ADDICTS AND DRUG ADDICTION

### The Patient and the Disease: Thoughts on Causes, Consequences, and Cures

*A recent decision of the Supreme Court of the United States intimating that the Harrison Narcotic Law might be in danger if an appropriate test case were brought before that body; the activities of the Narcotic Committee of the American Medical Association; the increasing importance being given the subject by many organizations; and the consequent renewed interest of the daily and periodic press, all seem to point to the approach of a wave of aroused public opinion in the narcotic situation.*

*In California the commendable activities of the Narcotic Committee authorized by the last legislature under the chairmanship of Senator Sanborn Young, aided by committees from medical associations, women's clubs and civic organizations, have intensified local interest.*

*In view of these facts and the certainty that the question will be an active one before the next session of the legislature, and because many physicians and other interested citizens who have read some of my brief discussions of certain phases of the narcotic situation have asked for a fuller statement, an editorial in this and two subsequent issues of California and Western Medicine will be devoted to a discussion of drug addicts and drug addiction.*

*These editorials will be brought together in a reprint, copies of which may be had for the asking.*—EDITOR.

### I

If the growth of the drug evil is to be arrested, policies must be revised and action predicated upon certain immutable natural laws and painful facts. We must first of all accept the fact that narcotics are "one way out," a solace to the footsore, weary, and downtrodden; mitigators of physical, mental, and moral suffering; conscience-deadeners for those who are haunted by the "still small voice"; bracers and nerve chargers for weaklings, wrongdoers, and criminals.

We must admit that narcotics stand pre-eminent among useful drugs in the intelligent relief of suffering and treatment of diseases; that drug addiction in persons otherwise reasonably healthy is not particularly difficult to cure; that in difficult problem addicts their drug disease is almost invariably but one of their several troubles, and that to cure them of their addiction alone is but to remove one weed from a garden of weeds.

Drug addicts, when considered from the angles of prevention and management, logically fall into major and more or less distinctive groups of those who: (1) Are

otherwise physically, mentally, and socially solvent; (2) have one or more physical infirmities of consequence; (3) are mentally infirm or defective; (4) are socially and morally insolvent or defective; (5) combine in themselves the handicaps of two or more of these groups; or, (6) are incurably infirm, degenerate, criminal, or dangerous. There are, of course, varieties and grades among persons in each of these groups, and unfortunately a discouraging number of them drift eventually into the class of the hopelessly infirm, criminal, degenerate, or dangerous.

II

Drug addiction among otherwise reasonably sound citizens is a disease quite as effectively handled as are other diseases, and by the same machinery of health service. We cannot expect it to be better handled than are tuberculosis, cancer, syphilis and many other diseases, any one of which is vastly more destructive of health, happiness, and life than is drug addiction among this class of people. Such persons usually acquire their habit pretty much as other habits are acquired—by imitating associates. A few are unavoidably made—and usually cured, even before they are aware of their affliction—by physicians in the legitimate treatment of the sick. Many youths experiment with these dangerous drugs to satisfy the same curiosity that leads them to experiment with tobacco—a curiosity incited largely by intriguing stories whispered about pretty much as are sex stories.

The considerable number of people who acquire their drug disease from tastes cultivated by narcotized patent medicines, soothing syrups, cough mixtures, "tonics" and what-not, has been materially decreased by the institution of partially effective food and drug laws. A saving characteristic of addicts who are otherwise reasonably sound is, that they have the will to throw off their disease once its dangers are made clear to them and they are endowed with the physical health, the intelligence, and the moral stamina that make complete recovery under wise guidance certain. Thousands are so cured whom no one except the family doctor knows of.

Government duties and responsibilities among these people are quite limited. They are as well handled as are those ill of other diseases by the same doctors and health agencies, and they, their families, and doctors resent meddlesome interference and more or less official branding by the stupid enforcement of stupid laws.

III

When an otherwise useful, productive, reasonably sound individual who suffers from severe pains and aches of any kind—asthma, neuralgia, gall-stone colic, jangling nerves, or what-not, once experiences the soothing effects of narcotics, another element is introduced into the problem of drug addiction and another group created. There are thousands of such people. They do not want to take drugs and they know the dangers they incur in so doing. But neither do they want suffering, and with them existence becomes a choice of two evils. When the morale becomes sufficiently disturbed by prolonged suffering, many accept the only solace they know—or that anyone else knows—and thereby add to their problem and subsequent misery, knowingly and deliberately. Obviously, persons in this group may be cured of drug addiction only by curing their other infirmities. Obviously, also, it is an individual problem because of the great variety in kind, cause, and curability of physical diseases.

Here again we are confronted with a problem preeminently medical. It is first of all the problem of the family doctor and the other agencies of health. The patient should be aided in every way to avail himself of the best that medical science has to offer, and if he succeeds in removing the causes of physical suffering, the cure of the drug addiction becomes a relatively simple matter. If, on the other hand, the physical malady proves incurable, as it may in, let us say, cancer, we are confronted with the most pitiable of all dilemmas. Under our cruelly stupid "standardized" laws the suffering patient has the choice of being officially branded or becoming a criminal and so does the doctor who allows his humanity to induce him to employ approved remedies for the relief of suffering.

Just why so many of the growing group of the mentally unstable, ill and defective should resort to drugs is not clear, and will not be fully understood until we have more definite knowledge of the mind in health and disease. We do know that not only drug addicts but many other undesirable types of citizens are recruited in large numbers from mental aberrants. Intelligent students of the subject know also that there is no more chance of curing the drug habits of such people so that they may withstand temptation than there is of curing their other mental failings. A few of these citizens are being cured of their mental infirmities, and when this has been accomplished, cure of their drug disease becomes a relatively simple matter.

Many more of this great group can be made productively useful to society by providing them with such mental splints as intelligent supervision, direction and, where necessary, restriction. The cure of their drug addiction may be accomplished by the simple process of taking them off the drug, *but to keep them cured* requires the constant application of the mental splint throughout life—a discouraging outlook.

It is among this vast group of the mentally unstable and infirm that promoters of alleged "narcotic cures"—and other "cures" as well—reap their harvest: a ghastly business that calls for suppression. This group of unstable citizens, whether drug addicts or not, is much more than a medical problem; it is the problem of society—one of its greatest problems.

The socially and morally infirm and the defectives constitute one major group of unstable citizens, and from it is recruited an amazingly high percentage of drug addicts. Many of these citizens are so maladjusted that society feels obligated to take cognizance of them and often restrict their privileges. To many of them drugs offer their chief solace and the nearest approach to happiness they ever know. To them narcotics are looked upon not as a curse, but as a blessing. To many of the group of social defectives narcotics are used for their bracing effects to enable the subjects to perform deeds of valor or more often of crime. Remorse and frustrated desire hit the social defective hard and often, and once he experiences the temporary relief supplied by a narcotic he becomes as devoted as a neurasthenic to his patent medicine, or a fat woman to obesity cures.

By far the largest group of drug addicts are recruited from those who are handicapped not by one, but several or all, of the defects mentioned in the preceding groups. In one series of 1000 drug addicts systematically studied in the Orient, there were nearly 4000 separate and distinct physical diseases; an average of nearly four ailments of consequence to each person. The proportion of the mentally unstable and defective, as well as the socially maladjusted, was also very great. The few who were physically, mentally, and socially solvent were cured without difficulty, most of them permanently so. Among the others only those were permanently cured of their addiction who were first or at the same time relieved of their other important handicaps. Other careful medical studies reveal similar multiplicity and interdependence of the infirmities of drug addicts.

Thus, the thoughtful student inevitably arrives at the conclusion that the drug addict, in certainly more than 90 per cent of instances, is precisely as curable of his drug addiction as he is of his other and often more serious infirmities; that to attempt to cure his addiction alone is futile, and that were it possible to eliminate addiction, there remains a problem citizen with but one—often the least important—of his troubles removed.

IV

Drug addiction, in its relation to its potential and actual victims, reaches into and affects many other phases of society, which is disturbing clean-minded citizens everywhere and finds expression in all sorts of organizations, moral, social, political, inefficiently milling in disarticulated, ineffective efforts at cures. Laws—national and state—occupy first place among these remedies. None of them is intelligently conceived or effectively enforced. The principal national law, according to the Supreme Court of our country, is a *revenue measure!* It takes toll from vice and proposes to remedy a social evil and cure sick patients by *thou shalt not* edicts calculated to embarrass doctors in their humanitarian work, to tax them

and direct them in the practice of their profession. State laws mostly follow the national lead and some of them go further in the stupid attempt to cure physically, mentally, and socially sick citizens and control those who are licensed to serve them intelligently by restrictive but nevertheless amazingly productive revenue measures; but when it comes to dealing with the really big problems of the manufacture, distribution, and marketing of these dangerous poisons, enthusiasm even for revenue is not so noticeable.

There are honest and dishonest merchants interested in the narcotic drug business. Honest ones are necessary because honest production and marketing of narcotics for necessary purposes is great, world-wide, and must be maintained. With a solace for their miseries, discomforts, and longings before their minds, the patient with his physical pains, the mentally defective with his lopsided ego, the social failure with his longings, the morally submerged with her diseases and her conscience, the would-be criminal with his cowardice, the flotsam and jetsam, the unstable, the weary, remorseful and whatnot, all cry out for the relief they believe "drugs" can give them—and never mind the penalty; that, they realize in a vague way, they must pay. So long as these conditions obtain, there will be plenty of men who will risk prisons for their bodies and hell for their souls to supply markets for the profits they may have.

Thus we see briefly that the problem of drug addiction is a many-faceted one, and that its limitation requires battle all along the long and devious road between the poppy fields, the coco groves, the synthetizing laboratories, and consumers—consumers everywhere in all walks of life, in all conditions of physical, mental, social solvency. Any intelligent constructive campaign must recognize that: (a) Certain quantities of these drugs are essential in the relief of suffering and the treatment of disease; (b) drug addicts are of as many varieties as are other individuals, and they may be intelligently succored only as individuals by individualistic methods. As Chairman W. C. Woodward of the American Medical Association Narcotic Committee has so well expressed it: "So far as the narcotic drug supply is concerned, the problem may be national and even international; but so far as the addict is concerned it is individualistic, and we are confronted with the task of mapping out a program that will cover the entire field and yet permit us to handle addicts as persons."

(*To be continued in the June issue*)

**The Life Extension Institute** in a recent advertisement states that heart disease, kidney disease, apoplexy, cancer, and tuberculosis are preventable diseases. This statement is partly true, but it is very largely untrue and much harm may result from allowing the public to believe that it is entirely true. Certain types of heart disease such as those due to syphilis are largely preventable, and we wish that we could prevent such types as the rheumatic and the arteriosclerotic, and perhaps occasionally we can, but it is only occasionally. To some degree we may prevent kidney disease, but our knowledge is decidedly too imperfect to allow us to make such conclusive statements in honesty to ourselves and our patients. Given arteriosclerosis, the prevention of which is in the shadowy borderland of knowledge, we can never with certainty predict freedom from the dangers of apoplexy. Early cancer may be cured, but it cannot be prevented. Tuberculosis alone offers some hopes of becoming a preventable disease, although even with this infectious condition our effort will often be met with failure. The health examination is most decidedly a worthy objective, but in all honesty let us recognize its limitations even as we proclaim its virtues.—Boston Medical and Surgical Journal, March 25, 1926.

**"From pillar to post,"** or in cruder vernacular, "passing the buck," has a meaning requiring no explanation. It is associated with the group plan of practice more than when responsibility is shouldered by the individual. This shelving of responsibility is one of the worst features in hospitals. It is bad for the patient, worse for the nurse, inexcusable for the physician, and a wretched quality of medicine.—Hugh Auchincloss (Journal A. M. A.).

## "TEN COMMANDMENTS FOR THE 'COMMON DOCTOR'"

Thou shalt have no favorites in newspaper correspondents in order to see thy name in print.

Thou shalt not bow down to graft, nor to the image of gold.

Thou shalt hold thy tongue when sued for malpractice, remembering silence is golden and that thy adversary is after thy gold and will get it if thou art not discreet.

Remember the Sabbath day and keep it holy; six days shalt thou labor and on the seventh also, if thou hast an opportunity to do good or the prospect of a good fee.

Honor the fathers of thy profession, that thy days may be long upon the land and thy usefulness lengthened, through the example and achievements of thy fathers.

Thou shalt not sanction adultery nor produce an abortion.

Thou shalt not steal thy brother's patients nor forgive him when he steals thine.

Thou shalt not kill thy brother's opportunity for earning a living, nor murder his chance of usefulness. He, probably, is thy superior.

Thou shalt not bear false witness against thy neighbor, nor speak evil of his good name. His reputation may be better than thine.

Thou shalt not covet the specialist's fee, nor dispute over a division. Let him have all the money; he may think he earned it. You must be content with glory.

—W. W. Brown, Virginia Medical Monthly.

**Chiropractic Not Harmless**—A decision by the Supreme Court of Illinois relating to chiropractic has brought out a new answer to the claims of chiropractors and practitioners of similar methods. The defendants in the case argued that practice of chiropractic was "a useful and harmless calling which cannot be regulated by the state." This claim was declared to be so entirely without merit that any discussion of it was unnecessary. The decision went on to state, however, that "if a chiropractor can, by manipulation, move a dislocated vertebra so that the pressure on a nerve can be relieved and paralysis cured, he can by the same process dislocate a vertebra and cause a paralyzed condition. Any method of treating human ailments which, when practiced skilfully, can restore a diseased human body to health is capable of doing great harm when practiced without care or skill. A method of treating human ailments cannot be both useful and harmless. If it is sufficiently efficacious to be useful, it is at the same time capable of producing harmful results." The chiropractor, no less than the physician or anyone else who is to treat the sick, needs to have a sufficient training in the fundamentals of medicine so that he will know at least when his manipulation may be harmful.—Journal A. M. A., February 13, 1926.

**Since I began the study of medicine,** I have devoted myself chiefly to a careful examination of the most valuable modern treatises. In this particular I differ, I know, from you, who are a profound scholar; but my books have always been few, though I hope well chosen. When I was at the university, a few vials, a skeleton, and an herbal, chiefly formed my library. By following the dictates of common sense, while I practiced at Oxford after taking my bachelor of medicine's degree, instead of stoving up my patients who were ill of the smallpox, as was done by the Galenists of those days, I gave them air and cooling emulsions, and thus rescued more than a hundred from the grave.—The Gold-Headed Cane.

**"Maternity Bill will Make a Midwife out of Uncle Sam":** The allowance of the $1,000,000 for hygienic, maternity, and infancy work under the Sheppard-Towner Maternity Act, as proposed in the pending Department of Labor appropriation bill, will make Uncle Sam "the midwife for every expectant mother in the country and the wet nurse for the nation's babies," according to Representative Tucker. "I am against the Government appropriating any money to any function which properly belongs to the individual states."—Chicago Tribune.

# - *The* MONTH *with the* EDITOR -

Notes, reflections, comment upon medical and health news in both the scientific and public press, briefs of sorts from here, there and everywhere.

**California continues** to hold the medal as the civilized world's greatest home of smallpox. The Antis are better financed than they are in most places, and then too they just naturally flock to our western shores to take advantage of nature's blessings. After all, smallpox is not as dangerous as are some other death-dealing agencies which stalk our streets with little hindrance. Prevention of smallpox is simple, sure and safe. Most of its adult victims have only themselves to blame, so why worry? It's the children and the irresponsibles that call forth our sympathy. A child with smallpox is a distinct reflection upon the intelligence of our community, and a death among these little ones from this disease should be followed by a manslaughter charge against someone. As for the adult who cares to commit suicide in this filthy manner, why bother too much? He is usually not much of a loss.

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**Shall we let Uncle Sam turn schoolmaster?** Are we so satisfied with our bureaucracy at Washington that we want to intrust our children to it? Before we make our schools into a solid national system let us stop and think. Standardization is a fine thing for milk containers and automobile parts, but is it good for children?—The Outlook, March 10.

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**"Halsted"** is Dr. Fielding Garrison's title of a delightful sketch of the life of this great surgeon in American Mercury for April. Perhaps no man did more to make surgery a medical science than Halsted. Doctors and medical students and young men and women contemplating the study of medicine will find much of profit in a careful reading of Dr. Garrison's sketch of his friend's life.

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**Alexis Carrel** (The Dearborn Independent, March 27) under the title of "Things That Doctors Do Not Know" enunciates some rather unusual and courageous philosophy. His discourse will be severely criticized by those optimists who are engaged in efforts to build up better men and women and particularly by those who are being paid to revolutionize or evolutionize the human race.

After acknowledging and commending the great advances that have been made, particularly in the control of infectious diseases, the distinguished author gives us this to think about:

"But we may doubt whether this victory has so far brought much happiness to the world. Has it greatly modified the position of the average man as regards disease and death? Probably not. Although the adult individual has much fewer chances of dying from smallpox, cholera, tuberculosis or typhoid fever than fifty years ago, his expectation of reaching the age of 75 or 80 has not markedly increased. But he surely has more prospect of being tortured by some form of cancer, afflicted with slow diseases of the kidneys, the circulatory apparatus, the endocrine glands, of becoming insane, suffering from nervous diseases, or of making himself miserable by his lack of judgment and his vices. Modern medicine protects him against infections which kill rapidly, but leaves him exposed to the slower and more cruel diseases and to brain deterioration."

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**A correspondent asks us** if we recommend "The Conquest of Disease" by David Masters (Dodd, Mead & Co.) for the nonmedical reader.

This book contains much useful information about certain phases of medical history and about some persons who have contributed to the making of such history. An outstanding and unfortunate feature of the book is its criticisms of the medical profession in its relation to medical progress. This editor found the book difficult and tiresome reading.

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**Doctors who are interested** in following medical progress and evolution will find that the editorial on "Ethics and the Medical Profession" (Journal A. M. A., March 27) is interesting and will commend its timeliness.

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**Typhoid fever is again** definitely on the increase throughout our country. Certain facts and many theories are used to explain it. Among these the dangers inherent in camping stand out and are liable to increase the hazards of this occupation during the summer months.

The public health authorities will do what they can to keep water and camp sites safe, but the wise camper will also follow the simple preventive rules of personal conduct, and add to his safety by having his doctor give him antityphoid inoculation before he leaves home.

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**A very large percentage of the regular medical profession** is both progressive and ethical, but there is an element within our profession that represents quackery and dishonesty which little effort on the part of the profession has been put forth to abolish. Some of the quackery and deception practiced by supposedly reputable members of the medical profession is of that refined and polished type that is hard to detect by the average observer. Some of it is blatant and crooked, with no attempt to gloss it over, and our profession suffers by harboring within its ranks these men who disgrace us.—Journal Indiana Medical Association.

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**The Medical Women's National Association** was formed twelve years ago through the wisdom and altruism of a group of women eminent in the profession. Medical women saw the same need of organization of women in this profession that was seen and acted upon by women in other professions and by women interested in social betterment of all kinds.

Opposition has arisen from an honest opinion against sex distinguishment and also an apprehension that a woman's organization would seem to be a pulling away from the American Medical Association and local societies; an apprehension that it would add to the prejudice of the men in the profession, where such prejudice exists.

*Experience of twelve years shows without shadow of doubt that these apprehensions are unwarranted.* Experience shows that where medical women get together and work together, they go up in the estimation of their confrères. They are instrumental in opening and holding opportunities for useful and lucrative work that without this organized influence would be closed.—Bulletin Medical Women's National Association, April, 1926.

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**"Iron rust costs** $300,000,000 a year": headline. This sum would not pay interest on the cost of the "rusting" of human blood-vessels.

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**A correspondent wants to know** if the following statements of Walter M. Dickie in the Weekly Bulletin of the California State Board of Health reflect the opinions of other doctors:

"A sick person is never an asset to his fellow-men; he is always a liability, regardless of his financial condi-

tion. . . . In the last analysis, life depends upon health. Without health, there is nothing."

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**Visiting nursing** or hourly nursing fills one of the most important gaps in the medical program. It ought to be more general than it is. Detroit has eight visiting, hourly, or home-visiting nurses working through a control exchange. Two dollars is charged for the first hour, and fifty cents for subsequent hours.

There are sporadic attempts to carry it on in California. If county medical societies and county nursing organizations would get together, a comprehensive plan could be worked out that would insure better medical care of patients at reduced cost without affecting adversely the material interests of doctors or nurses.

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**California, Nevada, and Utah Doctors Publish Elsewhere:**

[Note.—Members of the California, Nevada, and Utah Medical Associations are invited to supply the editor with reprints or marked copies of magazines containing their articles or very brief abstracts. All that we receive will be noted regularly in this space.—Editor.]

—**L. B. Dickey,** San Francisco, "Duodenal Ulcer, with Diverticulum," Journal A. M. A., March, 1926.

—**Frank Hinman,** San Francisco, "The Indication of Nephrostomy Preliminary to Ureterorectoneostomy," Journal A. M. A., April, 1926.

—**Albert H. Rowe,** Oakland, writes on "Bronchial Asthma in Children and in Young Adults," American Journal of Diseases of Children, January, 1926.

—**Frank H. Rodin,** San Francisco, "Treatment of Iridocyclitis by Subconjunctival Injections of Atropin and Epinephrin," Am. J. Ophth., January, 1926.

—**Moses Scholtz,** Los Angeles, "Trichophytosis of the Glabrous Skin," M. J. and Record, March, 1926.

—**John D. Lawson,** Woodland, California, "The Treatment of Pyogenic Infection by Roentgen Irradiation," Radiology, February, 1926.

—**John W. Shuman,** Los Angeles, "The Anemias," J. Lab. and Clin. Med., August, 1925; "Duck Season Closes," M. Times, April, 1926; "Cancer of Stomach," J. A. M. A., April 10, 1926.

—**William Everett Musgrave,** San Francisco, "Social Service Sifts Needy from Pretended Indigents (Children's Hospital of San Francisco)" by asking opinion of physician as to financial status of applicant for aid, cements friendship of medical men and distributes relief properly.—The Nation's Health, March, 1926.

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**Notwithstanding the very commendable progress** that has been made in developing the technique of modern public health administration, there is considerable unfinished business. Public health authorities have recognized the limitations of police power in controlling disease or promoting better health. This has introduced a new activity, usually referred to as popular health education. Suppressive and preventive measures, compulsorily enforced, will still be necessary; but we have learned that the individual will contribute more to the health of his community if he can be taught to practice the essential principles of health, hygiene, and sanitation. The field of popular health education has not been half explored. Many methods and devices have been tried, but these efforts have been directed chiefly toward mass teaching. A direct appeal to the individual seems to promise more encouraging results; and of all the agencies that have established effective and extensive contacts with the individual, none has been as successful as the public health nurse.—Hugh S. Cumming.

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**The Ohio State Journal thinks** that a slight extension of the lie classification now seems advisable. There are now lies, damned lies, and wet and dry statistics.—The Outlook.

## MEDICAL ECONOMICS AND PUBLIC HEALTH

**I repeat that the best hospitals** we have in the world are west of the Alleghany Mountains; those that are playing the game. They have the records, the laboratories, and the staff meetings. The result is apparent when one attends the clinics in this part of the country and the clinics in the East. You all know that because you travel, but they do not come over here to see what you have; but you know when you go East you are perfectly satisfied to come back here. You may be stimulated to do a little better, but not because the average is against you.—Franklin H. Martin, Southwestern Medicine, March, 1926.

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**A long acquaintance both with mathematics** and with a reasonably wide variety of applications thereof has made me somewhat skeptical of formulas, and I have perhaps unwisely gone so far as to state in print that I do not believe formulas.—Edwin B. Wilson (Science, March 19).

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**New Health Officers**—Francis F. Malone, M. D., has been appointed health officer of the city of Calipatria in Imperial County to succeed L. L. Lindsay, M. D.

Dr. Malone is a member of the California Medical Association.

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**As we have pointed out in earlier numbers,** the county hospital, financed and controlled by the county commissioners and supported at public expense, is very apt to be a thorn in the flesh of the medical profession, and evidence of it already is manifested in some counties of the state. In the first place, not a few of these county hospitals are served by doctors without pay, though everyone else connected with such institutions received compensation. There is no objection to this as long as the service is rendered to the indigent, but now comes a plea from some counties that a hospital maintained by taxation should offer free service to the taxpayers, and the doctors are expected to supply the service either gratuitously or at beggarly fees. In those counties where salaries are paid, the salaries are small though the volume of work may be large. Even the question of care of the indigent is one in which there is no consideration for the medical man, though everyone else is paid. The advantages of having a well-equipped hospital in every county cannot be denied, but an effort should be made to run these hospitals just as any other hospitals are run, with the doctors allowed minimum fees for attendance upon charitable cases, and the right to charge usual fees for any and all other patients taken to the hospital. No other basis will be fair to a deserving and self-respecting medical profession. The indigent deserve care at public expense, but there is no more reason why doctors should render gratuitous service to the indigent, who in reality are a community charge, than that grocery keepers should supply food gratuitously to the indigent. In other words, everyone should share through taxation the support of the indigent, and no one should be expected to furnish more than his share in that care, the doctor included.—Journal Indiana Medical Association, March, 1926.

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**Most experienced hospital executives** will take issue with W. P. Shepard, Berkeley, California Health Officer (Pacific Coast Journal of Nursing) when he says: "The marvelous fact that the Pasteur technic for the care of contagious diseases has made it possible to attend any number of different contagions in a single room, if need be, without serious risk to either the patients or the nurses, has made no impression upon many hospital superintendents or superintendents of nurses. The wonderful records of our leading contagious disease hospitals, where hundreds of cases of every description are cared for constantly with a remarkably low rate of cross-infections, are entirely overlooked by these leaders of medical

institutions. The fact that a nurse well trained in technic may care for almost any type of contagious disease, even including the dread pneumonic plague, without serious danger to herself, is never so much as whispered to their students."

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**William R. Redden, who is said to represent the** medical profession on the directorate of the National Red Cross, in recent articles is quoted as having said: "When Public Health and Preventive Medicine were twin individuals without hair on their heads, or clothes on their hides, they were almost strangled to death by the medical profession. From all over the country came the cry from professional lips: 'Kill them or they will kill our business. Don't you know that if you stamp out typhoid fever the very bread and butter will be snatched from our mouths, for typhoid cases, long drawn out, followed by many complications, pay practically all our overhead expenses during most of the year?' "

We wonder what good Dr. Redden thought he would do to the A. R. C., to himself or the public by thus attempting to injure a great profession.

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**The modern public health movement,** spanning a period of fifty years, has progressed from attempts merely to suppress disease to an era of prevention, and, finally, has recognized the necessity for health-promotion activities.

Notwithstanding the commendable progress that has been made in public health practice, recent surveys of 186 large cities have disclosed a great variety of method and procedure, many of which are inconsistent and not in accord with our present knowledge.

There is a growing tendency to encourage standardization of public health methods and to establish arbitrary measures, for the relative values of many items can be definitely determined only after careful scientific study and interpretation of details and a demonstration of the principles involved, preliminary to any attempt to establish relative values or to revise present methods.—Hugh S. Cumming.

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**A prescription on file in a drug store** is *prima facie* evidence that the physician who wrote it was treating a sick person for whom it was written. It is placed on file by the druggist for his own protection, and is a semi-public document which is open to the inspection of authorized state officials. A prescription for a narcotic or an alcoholic liquor is evidence that the person for whom it is intended is sick, and that the physician who wrote the order is actually treating the patient according to the scientific standards of modern medicine. Giving an alcoholic liquor to be used for any other purpose constitutes perjury and lying.—Editorial, New York State Journal of Medicine.

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**When anyone attempts to propose an "ideal" plan of organization** for adequate community health service for a city of a given size, it might seem logical to review the records of a group of apparently progressive communities and to pick out the city with the most highly developed service and offer that as the ideal or standard for the group. In attempting to do this, one would soon reach the inevitable conclusion that no two cities have followed the same scheme of organization.

The exact plan of local health service that will fulfill all the essential requirements of any selected community must be adapted to the circumstances and conditions peculiar to that community. Because of climatic, geographic, political, social, racial, economic, or other purely local characteristics, the vital health problems of one city may well differ from the particular problems that are of special concern to some other city.—Hugh S. Cumming.

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**A recent number of the Saturday Evening Post** takes the medical profession to task for its inability and ineffectiveness in putting over to the public the gospel of good health. It charges the medical profession with being the most tongue-tied of all learned professions, and apparently thinks that doctors still adhere to the dead languages in their manner of speech and of writing. It commends their zeal for scientific advancement and knowledge, but implies that much of this knowledge remains barren because it does not become the common property of the layman. The editor speaks of the doctor's love for long, accurate Greek and Latin words as being his besetting sin, and charges him with the lack of ability to write simply racy English, which would make his message attractive and understandable. — American Journal of Public Health, March, 1926.

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**The Marion H. Lippman Laboratory** — Mr. Sugarman is retiring from the well-known Lippman & Sugarman Laboratory in the Butler Building, 135 Stockton Street, San Francisco. The laboratory will hereafter be continued by Dr. Marion H. Lippman in the same place where it has been conducted for twelve years. Dr. Lippman is a B. S. and an M. S. from the University of California. He has taken courses in Bacteriology and Wassermann Reaction at Harvard Medical School, the University of California, and Stanford University. During the war Dr. Lippman served as a private at Camp Fremont Base Hospital and later at the Yale Army Laboratory School. After many years of experience he became convinced that good laboratory diagnosis and the right sort of laboratory service to physicians was impossible to render without medical education. He therefore took up the study of medicine and graduated from the University of California Medical School in 1925. He is now assistant instructor in surgical pathology at the University of California Medical School.

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**Some pharmaceutical manufacturers and distributors** advertise both to the medical profession and the public. Sometimes they make claims in their public advertising that would not be accepted by an ethical medical publication. Others like the Laboratory Products Company of Cleveland, Ohio, advertise *only* to physicians. In a recent letter to doctors they state that: "From the very beginning S. M. A. has been advertised to the medical profession only. We have depended entirely upon the co-operation of the physicians to prescribe S. M. A. It is through this excellent co-operation that we have been able to bring S. M. A. to the foreground among all fine products for the infant's diet.

"We want to be of service to the medical profession. If you want literature and samples of S. M. A., write for them. If you have questions to ask about S. M. A. or protein S. M. A. (Acidulated), ask us. If you have any suggestions to offer, we shall welcome them.

"We are at your service, and we want you to use the enclosed stamped postcard. No additional postage is necessary."

That is fine advertising, and it shows a high ethical policy deserving of support.

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**The patents granted to Drs. George F. and Gladys H. Dick** have been assigned by them to the Scarlet Fever Committee Incorporated of Chicago for administration, and the Scarlet Fever Committee Incorporated has granted the first license to E. R. Squibb & Sons for the manufacture and sale of Authorized Scarlet Fever Products. Prepared under the Dick patents, these products consist of Scarlet Fever Antitoxin, both therapeutic and prophylactic; Scarlet Fever Toxin for the Dick Test to determine susceptibility to Scarlet Fever; Scarlet Fever Toxin for active immunization against Scarlet Fever, and Scarlet Fever Antitoxin to be used in the diagnostic Blanching Test.

The Council on Pharmacy and Chemistry of the American Medical Association has accepted all of the Scarlet Fever Products put out by Squibb & Sons, and the Squibb Scarlet Fever Toxin, both for the Dick Test and for Active Immunization, are the first, and so far the only Scarlet Fever Toxins accepted by the Council on Pharmacy and Chemistry. These authorized products are prepared and thoroughly controlled by (1) the controls and tests made in the Squibb Biological Laboratories; (2) under Government regulations samples of each and every lot of Scarlet Fever Toxin and Antitoxin are required to be submitted to the Hygienic Laboratory for test and

approval; and (3) samples of each and every lot of Scarlet Fever Toxin and Antitoxin prepared under the Dick patents are required to be submitted to the Scarlet Fever Committee Incorporated for laboratory tests and clinical trial before any of that particular lot is placed upon the market.

This triple control (which does not exist for any Scarlet Fever products not prepared under license from the Scarlet Fever Committee Incorporated) insures products of maximum potency and is, in effect, a guarantee on the part of two control institutions, independent of the Squibb organization, as to the potency of such preparations.

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**In any type of hospital organization** I am convinced that there should be an individual responsibility for the care of the patient, not a group responsibility. Numerous ways of selecting the individual for this relation to the patient could be thought of, any one of which would work with complete satisfaction, provided this responsibility is recognized by both staff member and patient and the staff member, selected for the responsibility, is a broadly trained, competent clinician.—Henry A. Christian (Journal American Medical Association).

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**Of Such Are Statistics Made**—In one large city the seventy medical examiners of schools differed so widely as to what constitutes a defect of vision that one found only 1.5 per cent, while another found 24 per cent defective. The range as to diseased tonsils was from 2 per cent on the one hand, to 35 per cent on the other; for nasal obstruction, from 1 to 22 per cent; for decayed teeth, from 8 to 49 per cent; for stoop shoulders, from .1 per cent to 19 per cent; for anemia, ½ per cent to 25 per cent; and for "defective heart," from none to 3.5 per cent—Editorial, Medical Journal and Record.

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**On July 4, 1885, little Joseph Meister** was going to school at the village of Meissengott in Alsatia. He was but 9 years old, and of a sudden a dog, its jaws all dripping saliva, the gleam of madness in its eye, leaped on him. Down went the boy, crying for help, seeking to protect himself from the ferocious beast that was worrying him savagely. A laborer saw the scene, snatched up a bar of iron, and attacked the dog, which bolted back to its owner. The owner at once shot it, for its madness was terrible to see. And poor little Joseph Meister, with over a dozen bites about his arms and hands and legs, was carried to the local doctor. "What shall I do?" the weeping mother cried. "When I have dressed his wounds, take him to Paris to M. Pasteur," the enlightened doctor replied, for he was conversant with Pasteur's work, and two days after the attack little Joseph Meister was led into the laboratory. Pasteur's heart went out to the little boy. He longed to save him from an agonizing death, but he could not make up his mind, did not know what to do. In his perplexity he consulted two colleagues. "Vaccinate," they urged. "It will be quite safe." Pasteur at length agreed. The child was already doomed. The only chance of saving him was to vaccinate, to treat the child as he had treated so many dogs. That same evening the weeping boy received the first inoculation of the harmless virus. And day by day a deadlier virus was injected, and day by day Pasteur became more and more worried. He could not work, could not sleep. His anxiety was almost unbearable. His whole attention was concentrated on the lad he was trying to save. He prayed that he might succeed, was fearful lest he should fail. A dozen times in ten days the inoculating needle pricked into little Meister's skin, and then the last inoculation was given from a rabbit but newly dead. Pasteur's anxiety was at fever-pitch. All night long the scientist tossed about in his bed, his eyes heavy with lack of sleep, his brain tortured by terrible mental pictures of little Meister dying in the greatest agony. The next day the boy ran in to him, still enjoying health, showing no sign of the dread symptoms that Pasteur had got to know so well! Yet he kept the boy by him, afraid to let him go to his home. He, who admitted nothing until he had proved it, would not admit to himself that Meister was saved, that rabies was conquered. A month passed and he felt fairly sure; two months passed and he was certain.—David Masters (The Conquest of Disease).

# CALIFORNIA MEDICAL ASSOCIATION

EDWARD N. EWER, M. D., Oakland.....President
W. T. McARTHUR, M. D.....President-Elect
EMMA W. POPE, M. D., San Francisco.....
.....Secretary and Associate Editor for California

The fifty-fifth meeting of the California Medical Association is in session as the May issue goes to press. Addresses of chairmen of sections and the minutes of the House of Delegates will appear in the June issue; the Council minutes and addresses of our invited guests, in the July number.

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## ALAMEDA COUNTY

**Alameda County Medical Association** (reported by Pauline S. Nusbaumer, secretary)—The regular meeting was held March 15, 1926, President J. K. Hamilton in the chair. The following program was presented:

"Epidemiology of Smallpox," N. E. Wayson (by invitation). "Diagnosis and Treatment of Severe Smallpox," Arthur A. O'Neill (by invitation). "Administrative Application of Intradermal Methods of Vaccination," John Force (by invitation).

These papers were discussed by H. E. Foster, W. P. Shepard, F. L. Kelly, O. D. Hamlin, C. D. Sweet, A. A. O'Neill, and N. E. Wayson.

After adjournment refreshments were served.

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## CONTRA COSTA COUNTY

**Contra Costa County Medical Society** (reported by S. N. Weil, secretary)—The monthly meeting of the Contra Costa County Medical Society was held on March 27, 1926, at the home of Dr. G. W. Sweetzer Martinez.

The society had the pleasure of listening to Dr. Dudley Smith of San Francisco, a councilor of the State Medical Society, explaining the workings of the society and the good work that the League for Conservation of Public Health is doing.

Attorney A. F. Bray of Martinez gave a splendid talk covering the high-lights of medical jurisprudence.

Doctor Rowell of Crockett introduced a resolution that the society support the Medical Reserve Corps and urging the members qualified to enroll. Seconded by Dr. Beard and carried.

A most delightful supper was served by Mrs. Sweetzer, and heartily enjoyed by those present.

Those present: Doctors Abbott, Blake, Beard, Carpenter, Keser, Merrithew, McCullough, Rowell, Weil, Dudley Smith, Mr. Bray.

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## KERN COUNTY

**Kern County Medical Society** (reported by C. McLain, M. D., secretary)—The last monthly meeting was held at the Kern General Hospital, fourteen members being present. Dr. De Lappe, councilor of the Fourth District, was our guest and gave us an interesting talk on the different activities of the State Association. F. J. Gundry, M. D., F. R. C. S., Bakersfield, read an interesting paper, "Rupture of the Biceps Muscle," with a case demonstration.

At the time of the meeting there were ten cases of virulent smallpox with three deaths and another not expected to live. It is interesting to note that none of the virulent cases has ever been vaccinated.

Dr. Joe Smith, County Health Officer, and Dr. P. J. Cuneo, City Health Officer, Bakersfield, have conducted a free vaccination clinic, and at the time of this report about 2000 have been vaccinated.

## MARIN COUNTY

**Marin County Medical Society** (reported by J. H. Kuser, secretary)—A meeting of the Marin County Medical Society was held on March 25 at 8:15 p. m. The following members were present: Drs. G. M. Landrock, F. M. Cannon, C. W. Clark, W. F. Jones, R. G. Dufficy, M. S. Edgar, and J. H. Kuser. The minutes of the last meeting were read and approved.

The chair appointed a committee consisting of Drs. W. F. Jones and J. H. Kuser to gather data on the medical history of Marin County for transmission to Dr. Emmet Rixford, chairman of the state committee.

Dr. George Willcutt was enrolled as a member of the society by transfer from the San Francisco County Medical Society.

R. G. Dufficy read a paper on "Purpura Hemorrhagica" illustrated by microscopic slides which proved of great interest. A general discussion followed by the members present.

## SAN DIEGO COUNTY

**San Diego County Medical Notes** (reported by Robert Pollock)—Quite the outstanding feature of the past month was the meeting of the Southern California Medical Association in San Diego March 26 and 27. President Lyster and Secretary Sturgeon, both of Los Angeles, had provided a program fully up to the high standard set by this association. In addition to this, a contribution from the San Diego society was in the form of a clinical morning, Saturday, March 27, when the following hospitals presented clinics of distinct interest: Mercy Hospital, United States Naval Hospital, the San Diego County General Hospital, the Vauclain Hospital for Tuberculosis, the Scripps' Memorial Hospital, and the Scripps' Metabolic Clinic. As it is always the aim of this association in its regular sessions to cover the entire field of medicine and surgery, so in the clinics offered the same idea was carried out and a taste of everything was offered the scientific palate of the visitor. The following are suggestive of the menu: Surgical—General and Abdominal Surgery, Pelvic Surgery, Orthopedics, Urologic Surgery, Ear, Nose and Throat, Goiter Surgery; Medicine was represented by General Internal Medicine, Neurology, Pediatrics, Dermatology, Electrocardiography, and Radiography. The recently organized San Diego Gynecological and Obstetrical Society made its initial bow by presenting a very interesting dry clinic. Most of the leading clinical teachers of San Diego were in evidence at these clinics, and while space will not permit mentioning them individually, it is but just to say that San Diego is proud of their showing. Especial mention should be made of the courtesy of Captain Spear, Commandant of the Naval Hospital, who co-operated in every way possible with the local society to further the success of the convention, and the Medical Clinic held at his beautiful hospital was one of the chief drawing cards of the day. A pleasing feature of the clinics was the courtesy expressed by the management of the various hospitals in serving luncheon to all who attended.

The honor guest of the convention, Leonard G. Rowntree, M. D., Professor of Medicine of the Mayo Clinic, gave an excellent talk Friday evening on the various problems conected with diseases of the liver and kidney. Dr. Rowntree has an easy and convincing delivery, and speaks with the authority of the research worker and master of his art. Regrets were expressed at the inability through sickness of Dr. Dickson, Professor of Medicine at Stanford University, to be present as scheduled.

A side feature of the convention was the Golf Tournament held on the Chula Vista course which disclosed such talent among the medics of the Southland as should make our Northern confrères sit up and take notice.

The convention was brought to a close Saturday night with a meeting open to the public which was addressed by Rev. Howard B. Bard, D. D., who spoke on the relationship between religion and medicine. His address was largely a study in the psychology of the healing art, and was favorably received by a large audience. We hope to have this address published in the near future. About 300 medical men and women were in attendance at these meetings, and despite the crowded condition of the local hotels at the week-end everyone was comfortably provided for.

On Thursday, April 8, Colonel Edward L. Munson, Surgeon of the Ninth Corps Area, Presidio, San Francisco, was honor guest at the County Society, the members of which he desired to meet. At the conclusion of the luncheon the Colonel formally presented to the society, on the part of the United States Government, a diploma certificate recognizing the splendid showing made by the San Diego society in completing the staff of Evacuation Hospital No. 90. As far as officer personnel is concerned, this hospital is ready for any emergency. It would be ungenerous on the part of the medical society in accepting this honor to fail to give full credit to Colonel A. E. Banks, M. D., M. R. C., through whose untiring efforts this organization was allocated to San Diego and manned by San Diego officers.

## SACRAMENTO COUNTY

**Sacramento Society for Medical Improvement** (reported by Bert S. Thomas, M. D., secretary)—Once again the magic date of March 17 came (the date of our organization in 1868) and with it the fifty-eighth annual banquet of the Sacramento Society for Medical Improvement, the oldest medical society in California. As ever, it is the most important gathering of medical men. Year in and year out the profession gathers professionally. Once a year, as has been the custom, we meet to learn that the man next to us is not all machine; we have the opportunity to meet John Smith, the man.

This year's "get-together" was held at the Del Paso Country Club, and saw forty of our membership in attendance. This host was swelled by a Marysville delegation, Roseville visitors; Colfax came to meet with us; San Francisco met us. At 8 p. m. younger men asked: "Who is that doctor? and at 11 p. m. were bidding him, "Roy, bring Mrs. B. over to meet Mrs. R. at your first opportunity." All those petty jealousies that sometimes spoil our medical ideals and have no place among us are dissipated. This gathering was no exception, and the men present are to take a message to all those who were unfortunate enough to be able to attend. It will be as follows: "Don't miss No. 59 next year."

In the absence of our president, who was confined to bed, Nathan G. Hale presided. The toastmaster of the evening was our inimitable June B. Harris. Short and snappy messages were presented by the banquet committee and the officers. The Jones Trio (Charlie, Roy, and Norris) presided at the round tables. Del White and his "Six Montmartians" "orchestraed" throughout the evening. Soloists and dancing teams sung and flitted between the consommé "Schoff" and the "Reynolds" demi tasse (though some tell that Reynolds never saw his demi tasse).

We listened to notes of regret from Emmet Rixford, J. Wilson Shiels, Walter V. Brem, D. W. Montgomery, Howard Morrow, William Fitch Cheney, T. W. Huntington, Ray Lyman Wilbur, Stanley Stillman and Alanson Weeks, all speakers of previous years. That they could have been with us, is our sincere wish.

The Sacramento Society for Medical Improvement wishes to offer to every other society in the state one suggestion: Have a "get-together" banquet once a year. Medicine in California will profit by it.

## SAN FRANCISCO COUNTY

**San Francisco County Medical Society** (reported by T. Henshaw Kelly, secretary)—During the month of March, 1926, the following meetings were held:

Section on Medicine, Tuesday, March 2—Symposium on Amebiasis. Chronic human amebiasis—Luther M. Boyers, Berkeley, California (by invitation). Surgical therapy in amebiasis—Philip K. Gilman. Demonstration of the pathological lesions in amebiasis—Ernest M. Hall, Stanford University (by invitation).

General Meeting, Tuesday, March 9—Poisoning as seen in a large hospital—Gordon F. Hein. Emergency hospital treatment of cases of mercuric chloride poisoning—Ivan C. Heron. Poisoning by phenol and its com-

pounds—James M. Sullivan. Toxicological methods. Frank T. Green, City Toxicologist (by invitation).

Section on Eye, Ear, Nose and Throat, Tuesday, March 23—Relation of the arsenicals to the optic nerve—George N. Hosford. Relation of the arsenicals to the eighth nerve—Sigurd von Christierson.

Section on Urology, Tuesday, March 30—Organization of the medical profession—Victor G. Vecki. Torsion of the spermatic cord—Thomas E. Gibson. Solitary cyst of the kidney—Clark Johnson (by invitation).

## SAN JOAQUIN COUNTY

**San Joaquin County Medical Society** (reported by Fred J. Conzelmann, secretary)—The stated meeting of the San Joaquin County Medical Society was held Thursday, April 1, 1926, at headquarters of the Local Health District, 129 South American Street. The meeting was called to order at 8:30 p. m., President H. S. Chapman, presiding.

Thirty-five were in attendance. Those present were: Drs. E. A. Arthur, E. L. Blackmun, H. J. Bolinger, C. A. Broaddus, H. S. Chapman, F. J. Conzelmann, J. V. Craviotto, A. E. Dart, J. T. Davison, J. F. Doughty, L. Dozier, C. F. English, N. B. Gould, E. C. Griner, L. M. Haight, S. Hanson, C. D. Holliger, H. E. Kaplan, W. P. Lynch, Grace McCoskey, R. T. McGurk, F. G. Maggs, B. J. Powell, D. R. Powell, G. H. Rohrbacker, G. H. Sanderson, J. A. Smither, C. V. Thompson, L. E. Tretheway, A. L. Van Meter, G. J. J. Vischi, N. E. Williamson, H. Q. Willis, and Harold Brunn and Dudley Smith as guests and speakers of the evening.

The minutes of the previous meeting were read and approved.

The application for membership of R. A. Buchanan of Lodi was read and referred to the Committee on Admission.

The Film Committee reported that it presented the film, "How the Fires of the Body Are Fed," to various high, grammar and private schools of this county, and that over 4000 students and pupils saw the film on March 4, 5, and 8. Drs. A. R. Powers of Tracy, R. T. McGurk and George H. Sanderson of Stockton, and C. B. Benson of Escalon, gave explanatory talks preceding the showing of the film.

A communication was read from the District Health Officer, Dr. J. J. Sippy, stating that a series of diagnostic chest clinics were held on March 11, 12, and 13. The California Tuberculosis Association co-operated by sending the following diagnosticians: Doctors Trimble, Bush, Owen, Iaane, Premising, Krout and Hart. Clinics were held in Stockton, Lodi, Tracy, and Escalon.

A total of 161 persons were examined. Of these, 101 were children under 16 years of age. Practically all of these were selected by local physicians. On the evening of March 11 the general topic of "Tuberculosis of Children" was presented to the St. Joseph's Hospital staff. Dr. Owen spoke on prevention, Dr. Trimble discussed diagnosis, and Dr. Bush talked on treatment.

The motion of Dewey R. Powell, seconded by George H. Sanderson, that the secretary send a letter of appreciation and thanks to each of the visiting physicians and also to Mrs. Edythe Tate Thompson, secretary of the California Tuberculosis Association, carried.

The motion of C. F. English, seconded by R. T. McGurk, that the president call a special meeting at a date between now and the regular meeting in June for the purpose of discussing local problems, carried.

The president introduced Harold Brunn, M. D., Professor of Surgery, University of California, who spoke on "Lung Surgery." Surgery of the lungs has only in the last few years made much progress. The slow advance in this field of surgery is probably due to the idea of "No life without breath." Surgeons hesitated to attack the lungs, for fear of collapse of the lungs and asphyxia; another great drawback was the high mortality rate in surgical treatment of lung abscesses. It is the modes of the treatment that have cut this mortality rate down. Many factors must be taken into account. Determine the vital capacity of your patient to withstand operation. A strong, robust patient will withstand better thon one suffering from a lingering disease. The time at which the operation is done is important. Prepare your patient, and choose an opportune time for operation. Successful lung surgery requires the co-operation of the surgeon, the internist, the bronchoscopist, and the radiologist.

Abscess of the lung often gets well by palliative treatment. Rest and postural treatment may do wonders for the patient; often the cough disappears. Bronchoscope may be used, not so much to apply medicine as to establish free drainage. Abscesses frequently result from the aspiration of infected material at time of removal of tonsils, or abscesses may result from the entrance of any foreign body in bronchial tubes, such as extracted teeth, or tacks and pins swallowed by children. Many of these abscesses require relief by surgical operation, and patients get well immediately. Embolic abscesses of the lungs do not respond so favorably to surgical treatment. Aspiration or foreign body abscess is entirely different from an embolic abscess, and note the difference implied in this distinction. In the latter the infected material is circulated in the blood stream; in the former the infection is localized. Do not forget the distinction; it concerns the interest of the patient—prognosis and treatment—the attempt to forecast the future, to remove the condition, or lessen the symptoms and prevent their return. The result of surgery is decidedly hopeful in the one, and always uncertain in the other.

Patients suitable for surgical treatment are those with a bad abscess in one lung and the other lung healthy or nearly so. The operation is done in stages; it is important to keep in mind that when the patient goes bad, stop and close the wound and do the operation some other time. Lung surgery has its ups and downs. When operations are successful indications for the operations increase, but when operations go bad the indications for them decrease. Tumors of the lungs may be removed by surgery. Cancer and malignant growths are rarely primary in the lungs; but if they are, a cure may be completely effected by operation.

Bronchiectasis may be cured by use of the cautery. Surgery also does much in pulmonary tuberculosis.

Dr. Brunn showed many x-rays slides of patients suffering from some forms of lung abnormalities. The slides illustrated the conditions that one meets and the problems that have to be solved in many cases much better than any amount of theoretical discussion.

The president introduced Dr. Dudley Smith, who spoke on the importance of the technic of rectal examination. He emphasized the careful routine rectal examination, and pointed out the great relief often obtained by the patients from the treatment of a simple pathological condition in this region. He discussed many of the common affections in the anal region and lower bowel, and suggested the treatment indicated in each condition. The doctor showed many good and valuable instruments for purpose of rectal examinations and treatment.

A general discussion of both papers followed, and important points were brought out and many questions answered by the speakers.

## SONOMA COUNTY

**The Sonoma County Medical Society** (reported by Guy A. Hunt, secretary) met in Petaluma Thursday, March 11. Twenty-four members and two visitors were present.

Frederic M. Loomis of Oakland gave a talk on "Sterility," and Victor G. Vecki of San Francisco talked on "The Organization of the Medical Profession in the United States."

## SANTA CRUZ COUNTY

**The Santa Cruz County Medical Society** met on Sunday, March 21, at "Riverwood," the home of W. E. Musgrave, at 11:30 a. m., with Saxton Pope of San Francisco guest of honor. There was a large attendance of members and visitors.

Saxton Pope, himself formerly a Santa Cruz County physician, entertained and edified the gathering with a discussion of some of his recent experiences in hunting big game with the bow and arrow in Africa. At the close of his address Pope was presented with a copy of Sir Arthur Kieth's "The Antiquity of Man" as a mark of the

appreciation, affection and esteem in which he is held by his friends. Buffet luncheon was served at 1 o'clock.

The next meeting of the society will be held in Watsonville Sunday, May 16, at 11 a. m. "What Santa Cruz Can Do to Decrease the Hazards of Child Birth" will be discussed by members and visitors. Luncheon will be served at 1 o'clock.

## SOLANO COUNTY

**Solano County Medical Society** (reported by John W. Green, secretary)—At the last regular meeting of the Solano County Medical Society Dr. Hale of Sacramento presented a paper on "Abscess of the Prostate," and Dr. Harris of Sacramento, a "Travelogue of British Hospitals."

The president of the Well Baby Clinic, sponsored by the Vallejo Women's Club, was also a guest of the society, and the work of the Health Center for the past year was reviewed, with a view to either recommending their activities or condemning them. After some discussion a committee was appointed to meet with the officials concerned with the conduct of the clinic and to work out some more scientific scheme which would be a benefit to all concerned. There were many obvious defects in the examination as it was being conducted and many criticisms of those who were taking part in its activities. The Solano County Medical Society had never endorsed their program previously, and it was felt in the society that any activity which so much concerned the physicians of the county as did the Well Baby Clinic should be more or less under our supervision.

## TULARE COUNTY

**Tulare County Medical Society** (reported by Horace G. Campbell, secretary) — The regular monthly meeting of the Tulare County Medical Society was held at Motley's Cafe in Visalia March 28, following dinner at 7 p. m.

The following were present: Members—Doctors Paine, Palmer, Ginnsburg, Tillotson, Banks, Preston, Edmunds, Lipson, Betts, Campbell. Guests — Dr. Ernest Falconer, Dr. F. R. De Lappe, and Mr. T. R. Brown.

The meeting was called to order at 8:30 p. m. by President Betts. The minutes of the last meeting were read and opproved.

Dr. Fred R. De Lappe of Modesto, councilor of the State Society, then spoke on the activities of the State Medical Society. He discussed "Campaigning for Membership"; "Optional Medical Defense"; and "League for the Conservation of Public Health."

Ernest Falconer, M.D., of San Francisco then addressed the society on "Splenic Enlargements as Associated with Anemias."

## YOLO-COLUSA COUNTIES

**Yolo-Colusa Medical Society** (reported by John D. Lawson, secretary)—The last meeting of the Yolo Colusa Medical Society was held in Colusa for the first time in history on February 3, 1926. The following was the evening's program:

"Grading of Malignancy," by D. Schuyler Pulford. "Significance of Blood Pressure During Pregnancy," by W. J. Blevins. "Chest Surgery," by E. E. Larson.

Officers are as follows: J. Edward Harbinson, M. D., Woodland is president; George W. Desrosier, M. D., Colusa, vice-president; John D. Lawson, M. D., Woodland, secretary-treasurer; and Fred R. Fairchild, M. D., Woodland, delegate.

D. Schuyler Pulford was accepted as new member. Dr. Pulford is lately of Mayo Clinic and has recently been appointed on the medical staff of Woodland Clinic as associate in medicine, pathologist and director of clinical laboratory.

The transfer of Middleton P. Stansbury of Vacaville from Solano County Society was accepted.

It is reported that Dr. Earl Harlan of Colusa has been sentenced to three years in the federal prison for violation of the Harrison Act.

There has been an epidemic of smallpox, with about twelve cases in Woodland in the past month.

Yolo-Colusa County adopted the following resolution: Whereas, the United States Army is requesting that certain qualified members of the medical profession apply for commissions in the Medical Reserve Corps, and whereas it appears that this action is necessary to assure the protection of this country in time of invasion or war, be it

Resolved, That the Yolo-County Medical Society advocate the application for commissions in the Medical Reserve Corps by its various members qualified to serve.

## CHANGES IN MEMBERSHIP

**New Members**—Leopold H. Fraser, Richmond; Ernest E. Kessler, Sonora, Mexico; Francis P. Wisner, Chowchilla; Frank P. Topping, Sacramento; Charles A. Wylie, Charles N. Greusel, San Bernardino; Charles G. Curtis, Oran I. Cutler, Christian A. Nies, E. A. Nelson, Orlyn Pratt, Mosser G. Taylor, Floyd Lee, A. A. Steele, Loma Linda; Fraser L. Macpherson, F. W. F. Wieber, San Diego; Frank H. Rodin, Walter Schilling, San Francisco; Harvey H. Whitney, Burlingame; Allen K. McGrath, Sonoma; Frank Chilton, Joseph C. Cuneo, Russel Kapp, San Jose; Marie A. Vachout, San Martin; John R. Williams, Palo Alto.

**Resigned**—Charline A. Smith, Los Angeles; Elmer J. Chesbros, Gilroy, Calif.

**Transferred**—Horace A. Hall, Los Angeles County to Riverside County.

Frank Y. Kitsuda, San Francisco County to Alameda County.

George H. Willcutt, San Francisco County to Alameda County.

John M. Gardner, San Joaquin County to Santa Cruz County.

**Deaths—Hotchkiss, Lucius Wales.** Died at Santa Barbara, April 11, 1926, age 67. Graduate of Columbia University College of Physicians and Surgeons, New York, 1884. Licensed in California in 1919. Doctor Hotchkiss was a member of the Santa Barbara County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

**Zaiser, Albert Charles.** Died at Santa Ana, April 4, 1926, age 53. Graduate of St. Louis College of Physicians and Surgeons, Missouri, 1897. Licensed in California in 1920. Doctor Zaiser was an honorary member of the Orange County Medical Society, the California Medical Association, and the American Medical Association.

**Report of the Therapeutic Research Committee of the Council on Pharmacy and Chemistry**—During the past year the committee has concentrated its work on the support of investigations carried out in schools and laboratories of recognized standing by supporting investigations for which small grants were needed to purchase material and apparatus. Fourteen eligible problems of high quality were submitted.

The committee appropriated $2375. Six papers were published during the year, and a number are almost ready for publication.—Journal A. M. A., 1926.

**In the examination of children** in the Scanlon School of Chicago by the Tuberculosis Association of that city "40 per cent were found to have defective vision," though "only 7 per cent were urgently advised to have their eyes cared for." It has long been known that not more than 2 per cent (if that many) of eyes are anywhere near perfect. Are we to infer that the Chicago children have such superior vision? But why should only seven out of a hundred be cared for?—Medical Journal and Record, March 17, 1926.

**The mind, in discovering truth,** acts in the same manner as it acts through the eye in discovering objects; when once any object has been seen, it is impossible to put the mind back to the same condition it was in before it saw it.—Thomas Paine.

# UTAH STATE MEDICAL ASSOCIATION

T. C. GIBSON, M. D., Salt Lake City.....President
W. R. CALDERWOOD, M. D.....President-Elect
FRANK B. STEELE, M. D., Salt Lake.....Secretary

J. U. GIESY, M. D., Kearns Building, Salt Lake,
*Associate Editor for Utah*

## MAN AND HIS ILLS

There is truth in the statement that most of our troubles are brought upon us by our own acts—our own disobedience to laws. Laws of man or laws of nature, the rule still applies. And it is equally true that in his physical functions, his disregard of the welfare of others, the average man is a rather filthy beast, apparently overlooking, even in his attempts at cleanliness, anything but the benefit to his individual self.

More particularly we refer to the water supplies—the necessity for constant chlorination, made a necessity by the very acts of the people by whom a water supply is imbibed.

Years ago, as a child, I heard a rhyme, more forceful than elegant, yet pointing a moral by its very force. Somewhat expurgated for the sake of delicate ears, it went thus:

> The fly flew into the grocery store,
> A place he had often been before.
> He specked on the sugar,
> He specked on the ham.
> He didn't give a damn for the groceryman.

And this tells all about the fly, from a sanitary standpoint, regardless of the finer distinctions of how many pathologic organisms may find lodgement on the feet of a fly. Because, aside from the fact that the insect may accumulate and convey many such organisms in its transits, the mere fact of the excretory filth left by it upon foodstuffs always seemed enough to point the moral of a fly-swatting crusade to us. Yet in what major sense are we better than flies ourselves?

Not discounting too greatly recent English claims that typhoid is due in a greater measure to oysters and "plaice"—that small fish which they have the toothsome habit of frying and selling ungutted from commercial stalls—we still feel that, in America, at least much of it is water-born, and that for that water-born menace we are to blame past any other cause.

Reformers today are prone to blame the automobile for a large percentage of individual delinquency. We are not going to argue the point. But we are going to claim that, since the automobile has placed within easy reach the beauties of stream and canyon and countryside of which we rave, the menace of water-born typhoid has been on the increase. And the reason is easy to find if we seek it. It is the same impeachment that was written against the fly. We are fouling our streams by our own—as it really seems—indifferent acts in "specking" our countryside and our canyons and hence our streams with our own bodily excrements.

It isn't a pleasant thought—not even as pleasant as that of a fly speck on a piece of the groceryman's ham—but it is a very pertinent and a rather important thought. And the remedy is, of course, within our own hands. We laugh at an ignorant native washing himself in his stream. But wherein is the result any different if we foul the watershed and then let the results of our dereliction be washed into the stream by the natural agencies of drainage? As a matter of fact, no difference exists, save that the one ignorant of the laws of sanitation is *trying* to be cleanly, while we, knowing far better, are not doing better. It would appear that a wider and a more stressed education of the public upon this point should be put into effect. To us it appears that here is a very urgent item for the attention of the agents of public health.

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**The 1926 Annual Session** of the Utah Medical Association is being held in Salt Lake as we go to press, following out the program published in the April issue. The proceedings will be published in full in succeeding issues of CALIFORNIA AND WESTERN MEDICINE.

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**Utah News** (reported by J. U. Giesy)—Colonel E. L. Munson, Ninth Corps Area Surgeon, with headquarters at the Presidio of San Francisco, was entertained at dinner by the Medical Reserve officers of this section Sunday, April 11.

In addition to about sixty Medical Reserve officers, Brigadier-General L. R. Holbrook, commander of Fort Douglas, and Colonel Paul H. McCook, chief of staff of the One Hundred and Fourth Division, reserves, were present as guests. The arrangements were in charge of Colonel Willard Christopherson of the Reserve.

The Committee of Health and Legislation reported on their four months' investigation of the Utah Health Association, which is the organization having charge of the sale of Christmas health seals, on the night of April 26. This report was exhaustive and carried full record of the investigation made and recommendations concerning the further activities along state health campaigns against tuberculosis.

The repeat program delivered by the Medical Reserve officers at Ogden last month for the purpose of stimulating interest in the M. O. R. C. in Weber County was a great success. The visiting medical officers from Salt Lake were entertained at dinner, and afterward the program previously given before the Salt Lake Society was carried out.

At the Weber County Society meeting a most gratifying response was received in the signing of some thirty applications by the Weber County physicians for admission to the Reserve Corps. This is one of the best bits of work the medical reservists of Utah have put over. When it comes to supporting the Defense Act, Utah is surely on the map.

Major S. C. Gurney, One Hundred and Fourth Division, entertained Colonel E. L. Munson, who is here on inspection at a dinner, given for an invited list of Reserve officers and other guests from Fort Douglas Monday night, April 12.

The Advisory Committee, Medical Department, University of Utah (Francis Goeltz, chairman) met at the Medical Building April 28, and after a tour of inspection of the various medical departments, under the guidance of members of the University medical staff, luncheon was served to the inspecting members by the University.

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**Salt Lake County Medical Society, March 22, 1926** (by M. M. Critchlow, secretary)—President F. H. Raley, fifty members and forty-eight visitors, including nurses and sisters, were present at the meeting held at Holy Cross Hospital March 22.

The program was arranged by members of the hospital staff. Fuller B. Bailey reviewed a case of gastric lues. Sol G. Kahn presented a case of possible exophthalmic goiter in a child 13 years old. George A. Cochran presented a case of locomotor ataxia. J. U. Giesy pre-

sented a patient who had a fistula in the lumbar region following resection of a rib for osteomyelitis. A. J. Hosmer discussed the diagnostic points in psoas abscess. Leo Miltner, in the absence of J. J. Galligan, presented a case of fracture of the femur complicated by a severe burn. Park Tuttle presented a patient who had recovered from multiple perforations of the bowels from gunshot wound. L. N. Ossman presented a patient with anterior dislocation of the semilunar bone following an injury in 1918. W. G. Schulte presented a case of prostatism operated with good results. E. F. Root presented a patient with a congenital anomaly of the genitalia.

Following the meeting refreshments were served by the management of the hospital.

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**Meeting of April 12**—President F. H. Raley, forty-four members and eleven visitors were present.

A. A. Anderson presented a case of purulent pericarditis, drained, with complete recovery. Mr. Thody showed lantern slides illustrating the condition at various stages as revealed by the x-ray. Discussion by G. G. Richards. A. A. Kerr presented a case of fracture of the tibia and fibula in which a bone graft was done on the tibia with perfect results.

L. E. Viko's paper dealt with cardiac neurosis associated with organic heart disease. He compared a series of cases of heart disease without neurosis, a series of cases of neurosis without heart disease, and a series of the two conditions combined. He dealt with the symptoms, etiological factors, treatment and results of treatment. Discussion by G. G. Richards, G. H. Pace, and John Z. Brown. E. R. Murphy in his paper, "The Cardiac Child, with Special Reference to Functional Cardiac Capacity," discussed the various methods of determining the cardiac capacity, stressing the vital capacity. And illustrated the usefulness of simple tests in the treatment of cardiac diseases in children. Discussion by Helmina Jeidell and Smith of Ogden.

The application for membership of J. C. Stocks was read and referred to the Board of Censors. President Raley announced that the Salt Lake County Dental Society has issued an invitation to members of the medical profession to attend their meeting April 20, when there will be a debate upon on the following question: "Resolved, That all pulpless teeth should be extracted."

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**Acacia and Intravenous Injections**—The harmfulness of acacia in the treatment of shock and hemorrhage has been pointed out repeatedly. The changes resulting from the use of this otherwise inert agent bear on the many-sided question of intravenous therapy. The investigations of Hanzlik have shown the wide changes which occur in the blood and tissues. Confirmatory of the work of Hanzlik it was found that the blood after injection of acacia is definitley altered. The danger of intravenous injection of acacia has been fully demonstrated. The warning against acacia may be extended to other blood substitutes, and in fact to intravenous injections in general.—Journal A. M. A., February 20, 1926, page 556.

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**Recresal** (Propaganda for Reform)—It is claimed to be "highly efficient, corroborative for the sick, convalescents and those in need of recreation," and "specially recommended in cases of weakness and exhaustion of a physical and psychic nature, in bodily and mental over-strain; indispensable for the preservation of the tone of muscles and nerves." Tests made in the A. M. A. Chemical Laboratory show that sodium acid phosphate is the essential constituent. Therefore, the claims made for the product are preposterous.—Journal A. M. A.

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**The average graduate of today** is a better informed doctor than the average a generation ago. There is no doubt that patients today are being cared for by physicians with better general training than ever before. The hospital with its close professional contact in daily routine and in attendance at staff meetings affords the general practitioner a means of becoming a broader man and keeping up with progress in medicine.—Minnesota Medicine.

# NEVADA STATE MEDICAL ASSOCIATION

A. J. HOOD, M. D., Elko.....President
HORACE J. BROWN, M. D., Reno.....
.....Secretary and Associate Editor for Nevada

**Washoe County Medical Society** (by J. A. Fuller, secretary)—The April meeting was held in the residence of S. K. Morrison, Reno, April 13.

Mrs. M. H. Patrick, manager of the Nurses' Directory, communicated her appreciation of the support given by the physicians to the recently organized register.

Dr. Tees suggested the advisability of forming a similar directory for doctors, whereby calls could be received during the doctor's absence and an effort be made to locate him. Tees was appointed a committee of one to see Mrs. Patrick in regard to the matter, and report at the next meeting.

Owing to the large number of prospective papers to be read at the annual session of the Nevada Medical Association, Dr. Muller suggested that the meeting be extended to three days. This suggestion did not meet with general favor.

Mr. W. E. Barnard presented a plan for a new office building to be known as Physicians' and Dentists' Building, providing a sufficient number of doctors would go into it, and offered to arrange, free of charge, an assembly room large enough for meetings and the use of a projection lantern; also to maintain a library room for our use free of charge. The matter was tabled until more consideration could be given it.

S. K. Morrison read a paper on "Periodic Health Examinations." He pointed out that this movement was originally started twelve years ago, by a private lay corporation, and was either fostered or shortly after backed by the insurance companies. Four years ago the American Medical Association took up the matter to get it out of the hands of the laymen, and issued a pamphlet of instruction for physicians making such examinations. Morrison discussed the advantages and disadvantages of such activity in this community, and felt that we should proceed with it very cautiously. In discussing the paper, A. J. Hood thought we would be trying to force an unwelcome measure on the people. Piersall spoke in favor of the movement, citing the fact that in several towns in Nevada the physicians are already making free examinations of children. Richardson resented the idea of the physician having to be trained and passing an examination himself before examining others.

The free clinic in the city, which is being fostered by lay organizations, was discussed. No formal action was taken, but it was the consensus of opinion of all members present that the necessary charitable work was being adequately taken care of and that a free clinic in this community was unnecessary and undesirable.

Albert, on behalf of the society, thanked Morrison for opening his home (Mrs. Morrison was out of town) to the society. The rest of the evening and part of the morning was spent in enjoying the famous Morrison hospitality.

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**An industrial physician has been defined** by the Conference Board of Physicians in Industry as follows: "A physician in industry is one who applies the principles of modern medicine and surgery to the industrial worker—sick or well—supplementing the remedial agencies of medicine by the sound application of hygiene, sanitation and accident prevention, and who in addition has an adequate and co-operative appreciation of the social, economic, and administrative problems and responsibilities of industry in its relation to society."—W. Irving Clark, Canadian Medical Association Journal.

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**"What makes you look so fatigued?"** was asked of a withered-up little man. "Well, it's like this," he replied. "My wife is walking to reduce, and the only time she can do it without attracting the attention of the neighbors is in the evening. She then insists that I go along, even if I'm tired. The past two weeks I have lost eight pounds, and she has gained two ounces."—The Outlook.

# MEDICAL, HEALTH AND HEALTH AGENCY NEWS

**Mercy Hospital, San Diego** (reported by Robert Pollock) — At the March meeting of the staff of Mercy Hospital important discussion of salient points of hospital betterment was entered into by many of the members. This free interchange of views as to how things should be done are of great value in improving the service in our hospitals. Clarence Rees presented two very interesting cases of intracranial pathology, with operative treatment and results.

T. O. Burger reported a case recently operated with the removal of a considerable portion of the lower ileum, which presented extensive and deep ulcerations apparently brought about by the ravages of ameba dysenteriae. Discussion became rather general and spirited upon all of these presentations. Nothing could be more encouraging than the earnest and spirited way in which the physicians of the various hospital staffs enter into the discussion of the clinical cases reported; it suggests that the theory of medicine never touches the live interest of the physician as does the everyday problems of applied medicine.

On Tuesday, April 6, the conjoined staffs of Mercy Hospital, the County General, and the Scripps Memorial met in the auditorium of Mercy Hospital to discuss with J. B. Tyrrell, special representative of the American College of Surgeons, to discuss with him important matters relative to hospital betterment, various details of history-taking and filing and other important subjects were gone into, and the large number called forth on short notice felt amply repaid for attending. These visits from time to time by representatives of the College of Surgeons are distinctly stimulating to the higher ideals and better service in hospital work.

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**Franklin Hospital, San Francisco** — The regular monthly meeting of the Franklin Hospital Clinical Society was held on Monday, March 29, 1926, in the auditorium of the hospital, George Becker, secretary.

Several cases of neurosurgical interest were presented by Howard Fleming, after which a very instructive discussion followed. The first case was one of extradural hemorrhage with fracture of the skull resulting in a left hemiplegia. Second, a case of fractured skull with displacement of the vault followed by convulsions of a typical Jacksonian nature. Third, fracture of the third cervical vertebra, with dislocation causing a typical Brown and Sequard syndrome. The displacement was reduced by the Taylor maneuver, with marked improvement in the Brown and Sequard symptoms. Fourth, resection of the anterior and posterior roots of the segments of the fourth, fifth, sixth, seventh, and eighth cervical, and first and second thoracic spinal nerves for amputation pain in the arm with marked improvement. Fifth, were a group of periphery nerve cases following injury: (1) a muscular spiral nerve injury. A surgical union was made by placing the distal and proximal ends of the nerve together anterior to the humerus; (2) a case of sciatic palsy, due to dislocation of the head of the femur. The operation showed an injury to the sciatic nerve at the sciatic notch.

Following the discussion, refreshments were served in the hospital dining-room.

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**St. Joseph's Hospital Staff, San Francisco,** met April 7, A. S. Musante presiding, and discussed arteriosclerosis. R. M. H. Berndt read a paper on "Clinical Types of Arteriosclerosis," the following points being noted:

Senile arteriosclerosis is but a phase in the cycle of life—the retrogressive one. Palpable, tortuous, sometimes calcareous arteries with gradual decay of physical and mental power are usual. Without complication it means euthanasia.

Presenile arteriosclerosis is a diseased process, cutting down the usefulness or life of man at an early stage, when he should be still of the greatest value on account of ripe experience and judgment. The last two Presidents to die were victims of arteriosclerosis. This disease process is more disseminated than generalized, with constant tendency to spread. The arterial lesion produced by it leads to sclerosis of the viscera. The organs affected undergo changes and lose their capacity for work, not receiving proper blood supply. Arteriosclerosis also renders the smaller vessels prone to spasms with ischemia, pain and loss of function. The final stage of arteriosclerosis leads to endarteritis obliterans with necrosis, as seen in the brain or intermittent claudication.

Three types of arteriosclerosis are distinguished: first, the nodular, in the aorta and large branches, particularly at or near the orifices of branching vessels. The nodules when breaking down form atheromatous abscess or ulcer, not to be confused with simple atheromatous plaques frequently found and of no significance; second, the diffused kind in the middle or smaller branches, leading to destruction of muscular and elastic fibers in the middle coat with replacement of connective tissue; and, third, the syphilitic. Causes of arteriosclerosis are wear and tear of life plus heredity; infectious disease, especially syphilis; intoxications (lead, gout, diabetes, kidney disease, and obesity); hypertension; and toxic products in the process of intestinal or paraenteral digestion and in the biochemical process of metabolism, probably the most frequent and important causative agent.

Arteriosclerosis has no symptoms of its own. It is the commencement of a subsymptomal process, the first manifestations being the functional disturbances of the affected organs. The heart stands the brunt of the battle. Hypertrophy is the elementary change. Valvular aortic disease, auricular disturbance, as auricular fibrillation or flutter, angina pectoris, and coronary involvement, leading to myocardial changes, follow. Other clinical symptoms are neurasthenia (often present), insomnia, disturbance of digestion, sometimes with pain, precordial pressure, dyspnoea, loss of fatigue sense with inability to relax, eye symptoms, often early, and tinitus, a frequent symptom. Early diagnosis is just as important as in tuberculosis.

Philip King Brown opened the discussion, as follows: The usual manifestations of arteriosclerosis as observed in the Southern Pacific Hospital include Ayerza's disease, a stenosis of the pulmonary artery from sclerosis of its wall and branches, the chief symptoms being cyanosis and edema of the lungs, with marked disturbance of the breathing; Buerquer's disease and obliterating endarteritis of the vessels of the extremities, described first among the Russian and Polish Jews in New York. We had one case markedly benefited by no treatment except small doses of salvarsan. After several injections he felt at least 50 per cent improvement. We have had some evidence of the relation of arteriosclerosis to ulcer of the stomach and duodenum as observed at operation. We have tested out all suggested causes of essential hypertension with and without evident arteriosclerosis, without being particularly impressed by any. The uricacidemia suggested by Fishberg as a cause we could not substantiate. The occurrence of cholesterol in excess in its relation, not only to arteriosclerosis, but to cirrhosis of the liver, has attracted our attention. We have tried liver extract in reducing blood pressure, but do not find it of any advantage, as the pressure rises promptly after the extract is discontinued.

L. B. Crow supported the idea that the location of the preliminary lesion was in the intima of the vessels instead of the media.

R. H. Dunn spoke on the service offered by the Community Chest for helping nursing mothers when they leave the hospital, and it was voted to have St. Joseph's Hospital utilize the same.

Case histories were presented by Frank Sheehy (gastric cancer, following ulcer, and myelomata), C. R. Drader (carcinomatosis), and Samuel Barmak (pneumococcic meningitis and pernicious anemia).

Patients were demonstrated by Frank Lowe and Roy

Parkinson with fractures of the arm and forearm and arteriosclerosis of the retinal vessels, respectively.

The program for May 12 follows:

"Malignant Splenomegaly," T. B. Bodkin; "Blood Picture in the Acute Abdomen," Walter Smith; "Recent Experiences With Mercurochrome," William Quinn; and "Medical Progress—Echoes of the A. M. A. Meeting," W. T. Cummins.

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**At a recent meeting of the St. Francis Hospital Clinical Society, San Francisco,** goiter surgery was discussed by Wallace I. Terry; demonstrations of pathological specimens were given by A. M. Moody.

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**The Women Physicians' Club of San Francisco** (reported by Edna L. Barney, secretary) — A more concerted action by medical women has long been desired, not only for the advancement of medical service, but also for a prompt expression of cordiality to visitors in our city who have achieved renown in some line of medical work.

The Women Physicians' Club was inaugurated December 11, 1925. It was fortunate in having been organized in time for the members to meet Josephine Baker of New York as their club guest. The fine professional and personal attitude of Baker toward medical women deeply impressed the club members and caused them to realize a delightful satisfaction in their organization.

The Women Physicians' Club now has ninety-three paid-up members, and with a feeling of assurance for a permanent organization has, under the guidance of its president, Louise B. Deal, joined the California Federation of Women's Clubs.

It is of special interest that the federated clubs, representing more than 70,000 women, have chosen the leadership of Mariana Bertola, and so things medical, both civically and legislatively, which are of particular interest to women, have a very promising outlook. The members of the Women Physicians' Club aim to give all possible help to Bertola in her important work.

To medical men we wish to say: The Women Physicians' Club fosters no spirit of antagonism; clearly we see the true nature of a common cause for general well-being.

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**Amid the present heated debates and highly colored propaganda** devoted to the subject of law and law enforcement it is refreshing to see an organization quietly taking steps for the prompt and effective punishment of those persons who persist in defying the mandates of the people as expressed through the law.

During a three-day session in Los Angeles of the State Medical Board, which came to a close yesterday, that body revoked the licenses of several physicians who had been proven guilty of law-breaking, suspended others, and placed yet others on probation, depending upon the gravity of the offense in each case. In the latter case, the first false move of the guilty parties means the immediate revocation of their licenses to practice in this state.

These steps were taken in order to rid the medical profession and the public of doctors who unlawfully sell narcotics, wrongfully dispense liquor under the guise of their profession or who otherwise deport themselves in a manner unbecoming to the responsibilities with which they are intrusted.

It is especially significant that these cases were all disposed of within three days. Contrary to the practices in our courts, there were no long delays resulting from technicalities; no deferred sentences or legal loopholes by which the culprit could escape punishment.

Law enforcement undertaken in such a manner is certain to be more successful than is the case where all manner of excuses and delays are permitted to wield their influence.

The members of the State Medical Board are to be congratulated upon their efforts to promote the public interests, and it is to be hoped that some of their promptness and efficiency in such things will be transmitted to our courts in the effort to suppress the criminal.—Hollywood Citizen, March 13, 1926.

**At the regular meeting of the California Board of Medical Examiners** held in Los Angeles March 8 to 11, inclusive, an unusually large number of hearings were held in the instance of licensed individuals charged with violation of some provision of the Medical Practice Act, and the following action was taken:

Herbert Bogue, March 11, 1926, certificate revoked. (Violation of State Poison Law re narcotics.)

Charles K. Holsman, March 9, 1926, certificate revoked, based on conviction of violation of the United States postal laws.

Frederick K. Lord, March 9, 1926, certificate suspended one year. (Habitual intemperance.)

Robert W. Renwick, March 11, 1926, certificate revoked. (Aiding and abetting an unlicensed practitioner.)

William A. Strole, March 10, 1926, certificate revoked. (Violation of State Poison Law re narcotics.)

Ludwig H. Wolfsen, March 9, 1926, certificate suspended one year. (Violation of State Poison Law re narcotics.)

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**Of interest to physicians,** and more especially to otologists and rhinologists, will be the announcement that the American Association for the Promotion of the Teaching of Speech to the Deaf will convene for a five-day session in San Francisco on July 5, 1926, in the auditorium of the Pacific Heights public school.

The problem of those deaf children to whom medical and surgical science cannot give absolute relief is one which touches closely the conscientious physician, for he is quite frequently called upon to give advice as to an educational program for such patients.

If he is conversant with the possibilities for training, there is the chance for his invaluable co-operation with the state and local boards of education, whose task it is to bring to parents an understanding of the necessity for an early entrance into the proper schools, so that the process of overcoming the handicap of deafness may not be unduly delayed.

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**Professor Brouwer of Amsterdam** was the scheduled speaker for the meeting of the San Francisco Academy of Medicine on May 1. Subject: "The Projection of the Retina on the Brain.

The meeting of June 26 will be addressed by George W. Holmes of Boston. Subject: "Lymphoblastoma, Its Various Manifestations and Treatment."

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**The Morris Herzstein Lectures on Diseases of the Pacific Basin** were given by Henry S. Houghton, the director of the Peking Union Medical College on the evenings of Monday, April 26, and Wednesday, April 28, at Lane Hall.

The first lecture was a discussion of the setting of western medicine in Asia, and its significance in the promotion of international well-being from various points of view. The second lecture was a more detailed and specific talk on nosogeography and on the work that is being done in China.

It is unfortunate that the dates of these important lectures were in conflict with those of the California Medical Association meeting in Oakland.

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**Stanford announces** that Frederick Leet Reichert of Johns Hopkins has been appointed Associate Professor of Surgery in the Stanford Medical School, beginning with the year 1926-27.

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**The Stanley P. Black Memorial Lectures** were delivered this year on March 19 and 20 in Memorial Hall, Professional Building, Pasadena, by A. S. Warthin, Professor of Pathology, University of Michigan. Subjects: "The Nature of the Susceptibility of Cancer," and "Syphilis of the Heart and Aorta."

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**Friends of Doctor Edgar L. Gilcreest** deeply sympathize with him in the loss of his father, Dr. J. Edward Gilcreest, who died at Ennis, Texas, March 18, aged 75. Doctor Gilcreest was known throughout Texas and Oklahoma as a pioneer physician and educator, and his counsel was sought far and wide by the younger physicians. He was the oldest living alumnus of the Louisville Medical College.

# READERS' FORUM

Selected short letters and abstracts from longer communications from readers are published when they remain within the bounds of decorum and law and contribute anything of value. Hereafter the name and address of the writer will be given. A pen name will be published on the author's request, and letters to the editor not intended for publication should be marked "personal."

April 9, 1926.

TO THE EDITOR:

If CALIFORNIA AND WESTERN MEDICINE will in the future be bound by sewing it will have about reached the acme of perfection and will materially contribute to my spiritual development, for I cannot refrain from swearing when I open a magazine bound by stapling.

I subscribe to some thirty medical and other magazines. The comfort derived in opening, e. g., "The American Journal of Psychiatry," "The Journal of Abnormal and Social Psychology," "The International Journal of Psychoanalysis," "Mental Hygiene," "American Mercury," et setera, in comparison to the stapled "Journal of the American Medical Association," "The Psychoanalytic Review," "Endocrinology," "International Studio" (otherwise beautifully done up), and many others cannot be expressed. To enable me to read with equanimity the stapled magazines I invariably take the staples out before I read them (I keep two sets of tools for this purpose, one in my office and one on my library table at home). This takes time, and in performing the delicate operation I often injure my fingers and have to run for the tincture of iodin bottle. You must admit this is a great nuisance. Therefore, by all means continue to bind CALIFORNIA AND WESTERN MEDICINE by sewing.

C. RENZ, M. D.

San Francisco.

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Sacramento, April 10, 1926.

I much prefer the binding used in the April issue of CALIFORNIA AND WESTERN MEDICINE.

C. I. TITUS, M. D.

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Occidental, California, April 11, 1926.

TO THE EDITOR:

In my opinion the binding (sewed) of the April issue of CALIFORNIA AND WESTERN MEDICINE constitutes an improvement. I have frequently noticed that the wire stapling of some of our journals gets into such a condition as to be dangerous from scratching the fingers of those who have to handle them. At least it is painful or uncomfortable. Then also the furniture of our homes and offices is apt to suffer from the same cause. The new way makes reading more easy and pleasant. The book becomes docile, as it were. It will stay where one puts it without showing fight. It can be easily conquered with one hand. It is a credit to all concerned.

Most gratefully in the cause of medicine,

R. FORREST, M. D.

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Los Angeles, April 10, 1926.

TO THE EDITOR:

There is no possible comparison between stapling and stitching in the interpreting value of a magazine. Heretofore, if I was interrupted in reading an article in CALIFORNIA AND WESTERN MEDICINE it took me precious minutes to find my place again. Now I can lay the magazine down and find it as I left it when I wish to take up the reading again. It certainly is a great improvement.

ELMINA FARQUHAR COOK.

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DEAR EDITOR:

In your April issue you have a little symposium on bedside medicine, with the subject of whooping cough as the theme. In the articles seven physicians take part. Dr. Myrl Morris speaks of the effects of intramuscular injections of ether, but does not indorse the treatment very strongly.

I am not supposed to be a general practitioner, but in the last six months I have had five children whom I have looked after with this dreadful disease. Two of them were certainly very bad with the disease and showed the evidences of exhaustion which is a part of the disease. In all these five cases I used the intramuscular injections of ether in the abdominal wall. The ether left no necrotic spot, no evidences of physical injury. I began with about twelve drops, repeating the dose the second time to fifteen drops, and the third dose to about twenty drops. There was a rapid amelioration of all the symptoms from the first. In all these five cases the mothers pronounced the children completely cured. The whoop was eliminated and the accompanying bronchitis quickly disappeared. The doses were given at four or five-day intervals. The response was magical.

I am aware that five cases does not constitute much of a basis from which to form an opinion. But in common with other practitioners, and having had over a third of a century experience in some of the commoner things of medicine, I wish to say that no more vaccine, bromides, codia, or any other empiric medicine would be given by me in treating one of the outstanding plagues of childhood, and such a plague I consider whooping cough to be.

I hope those who read these lines will try the ether as I have outlined in their cases of whooping cough, and I should like to hear from them through the columns of this magazine what their results were.

THOMAS W. BATH, M. D.

Reno, Nevada.

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Ambassador Hotel, Los Angeles, March 25, 1926.

TO THE EDITOR:

Enclosed please find a postoffice money order for which I would thank you to send a copy of the December, 1924, issue to each of the following names and addresses: Mark G. Harris, Ambassador Hotel, Los Angeles; Dr. J. J. Monohan, 25 East Washington Street, Chicago; Dr. A. Schram, Monroe Building, Chicago; Dr. Francis McNamara, Savings Bank Building, Chicago.

I also request you to please mark the William Fitch Cheney special article as listed on the front cover, so my doctor friends will know the particular article I want them to look over. I think it the "best ever."

MARK G. HARRIS.

Letters like this help expand the growth and influence of western medicine and are valuable to individual doctors.

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Martinez, California, April 10, 1926.

TO THE EDITOR:

I have just looked through the April issue of CALIFORNIA AND WESTERN MEDICINE to see your comments on what was said and done at the recent meeting of the Building Trades Council at Marysville in regard to medical and surgical work in industrial accidents, and failed to find any news whatsoever.

Inasmuch as they agitated a change in the industrial accident laws, accused certain doctors of collusion and perjury, and advocated these changes through the initiative or by pledging the candidates to the legislature in advance, and as this talk was by one of the most important of the state labor bodies, I think it worthy of some notice in our magazine.

I have heard this meeting spoken of by labor leaders and by many doctors, and I think that lack of notice by CALIFORNIA AND WESTERN MEDICINE, representing the State Medical Association is entirely wrong.

I do not know much else on this subject than what I have written here, but as this has been given rather wide publicity and was in the daily press, you are, or should be, well acquainted with the facts. I certainly think this matter of much more importance than some of the news you publish.

JOHN BEARD, M. D.

Dr. Beard's note is the only information we have received about the meeting to which he refers. Even our newspaper-clipping service failed to cover the story. As Dr. Beard says, information about activities in industrial medicine often constitute medical news of value to physicians which we are glad to publish when we can get it.

San Francisco, April 18, 1926.

TO THE EDITOR:

Just a line to say that I prefer sewing CALIFORNIA AND WESTERN MEDICINE instead of stapling as heretofore.

EWALD ANGERMANN, M. D.

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University of California Medical School,
April 13, 1926.

TO THE EDITOR:

I wish to thank you again for the interest you have taken in the experiment in medical education carried on at the University of California Medical School and for the excellent presentation of it in the April number of CALIFORNIA AND WESTERN MEDICINE. The article has proved of interest to members of our own faculty, and I have been very much encouraged by the inquiries and comments it has aroused. We have ordered a thousand reprints of the symposium, and intend to distribute them to the students and faculty.

It may interest you to know we are continuing the instruction this year, and have six seniors taking their month in Medicine with outside physicians. I appreciate very much your endorsement of the plan and its presentation before the medical profession.

WILLIAM J. KERR.

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Los Angeles, April 14, 1926.

TO THE EDITOR:

For many years manufacturing opticians have made a practice of returning to the referring oculist a considerable proportion of the amount charged the patient. The physician specializing in eye work has grown to expect this rebate, and even to demand it if his percentage is not forthcoming promptly. Naturally, not being a philanthropist, the optician adds to a fair price for lenses and frames the sum he is expected to pass back to the physician. It is assumed that no patient is ordered to wear spectacles in order to add to the doctor's income, and so this practice is ethical.

Representatives of two corset manufacturers of national repute have called upon me to advance their arguments as to why I should advise my expectant mothers to wear their belts and corsets, and in concluding, have stated that for every patient so referred, I will be given the customary sum of $2. It is assumed that I am going to order corseting anyway, and so this practice is ethical.

Two clinical laboratories here in Los Angeles are frankly rebating a portion of the amounts collected. One makes a charge to the physician, but collects whatever sum the physician may elect to charge, and the difference arrives at the physician's office. The other charges the patient a fixed sum, and rebates 25 per cent dividends on the $100 the physician has invested. This practice is in question, but so far, since the rebates are limited to actual stockholders, the practice is denied to be unethical.

A patient, needing an appendectomy or tonsillectomy, or the Lord knows what, is referred by a physician to a surgeon. The surgeon, just as the optical house, the corset manufacturer, and the laboratory, depends upon the referring physician for the bulk of his income. But he dares not show his appreciation in the same manner, for such would be fee-splitting and highly unethical. Wherein lies the difference?

I can see no essential difference between fee-splitting of operative charges and rebates from professional laboratories and business houses. I think the subject might call for profitable discussion.

I prefer not to have my name published.

———————, M. D.

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**We have endless statistics,** these days, of defects and defectives. The layman is often confused and confounded by these exhibits, and even the physician may gasp a little at the amazing state of affairs which is sometimes supposed to be revealed. What is a defect? Does a wart deserve the distinction, and when? Is an inequality in length of feet a defect, and which foot is defective? George Washington had a deformity of the chest. Was the father of his country defective? If so, his children might well have such an inheritance.—Medical Journal and Record, March 17, 1926.

## CALIFORNIA BOARD OF MEDICAL EXAMINERS

C. B. PINKHAM, M. D., *Secretary*

The San Bernardino Sun of January 21, 1926, relates the arrest of Frank Taylor charged with forging a prescription blank of Dr. J. W. Aldridge for 20 half-grains of narcotics. The Board of Medical Examiners frequently have similar forgeries brought to their attention, such forgeries being made easy because of the narcotic registration number which most physicians and surgeons have printed on their prescription blanks. If this number were not printed thereon, it would not be possible for any impostor to know and enter the registration number of a specific physician.

Robert Belmont, giving his occupation as a chiropodist, but who does not appear on a list of those licensed in California, was recently charged with grand larceny of an automobile belonging to Mrs. Bertha Richards, according to the San Diego Evening Tribune, March 10, 1926.

J. Lafayette Berry, whose license to practice medicine and surgery in the state of California was revoked October 21, 1919, was recently charged with practicing without a license, the complaining witness alleging that she gave $200 to Dr. Berry for the removal of an alleged cancer on the face and that "the infection was burned with acid for almost eight hours while she suffered great pain, and asserted that the 'operation' was not successful."—Pasadena Star-News, March 4, 1926.

The certificate entitling Herbert E. Bogue to practice as a physician and surgeon in the state of California was revoked March 11, 1926, after a hearing based upon narcotic charges.

Sally Broy, alleged voodoo doctor of Oakland, was recently charged with practicing medicine without a license. "Her method of treatment . . . consisted of stripping a patient to the waist, gazing through the thorax by light of a red lantern, by way of diagnosis, and then muttering weird incantations. The 'treatment' was furthered through a mystical, all-powerful salve . . . "—Oakland Times, February 25, 1926.

The appeal of Bishop W. L. Cosper, self-styled bishop of the Christian Philosophical Institute, who some time since was sentenced to ninety days in jail and a fine of $500 for violation of the Medical Practice Act, was denied by the Appellate Court February 25, 1926.—Sacramento Union, February 26, 1926.

Dr. J. G. Ham of Los Angeles, his office assistant, Herbert Del Valle, and three others are reported to have been charged by the district attorney of Los Angeles in connection with the death of Miss Bessie McCarroll as the result of an alleged illegal operation.—Los Angeles Herald, March 12, 1926.

Rebecca Lee Dorsey, M. D., of Los Angeles was placed on five years' probation, following a hearing by the Board of Medical Examiners held March 11, 1926, in connection with her "goat-gland" announcement.

Dr. Richard Eble . . . who has just received the marked honor of being admitted to a fellowship in the American College of Chiropractors, is believed to be the only chiropractor in this vicinity who has ever been distinguished by the right to attach the four letters F. A. C. C. after his name.—Glendale News, March 11, 1926.

R. Thompson Fowler, alleged tubercular specialist, who has on prior occasions been charged with violation of the Medical Practice Act, was recently again charged with violation of the Medical Practice Act in Oakland.—San Francisco Chronicle, February 15, 1926.

At a regular meeting of the Board of Medical Examiners held in Los Angeles March 9, 1926, Dr. William S. Fowler of Bakersfield was placed on probation for five years and denied permission to handle or prescribe narcotics during that period. Dr. Fowler was charged with having prescribed and sold narcotics to known addicts in excessive amounts.—Los Angeles Examiner, March 10, 1926.

At a regular meeting of the Board of Medical Examiners held in Los Angeles March 10, 1926, Wendell O. Gregg, M. D., "was found guilty of unprofessional conduct and given five years' probation. The board also

ordered the revocation of his federal license allowing him to prescribe narcotics and liquor."

At a regular meeting of the Board of Medical Examiners held in Los Angeles March 11, 1926, Edward O. Hanlon, M. D., was placed on three years probation, with the understanding that he give up and not apply for a federal narcotic tax stamp nor alcohol permit during the term of his probation.

The Sacramento Bee of March 13, 1926, relates the conviction of Dr. Earl Harlan, well-known Colusa physician, on a charge of violation of the Harrison Act, and his sentence to three years in the federal penitentiary. Dr. Harlan's license was revoked by the Board of Medical Examiners July 8, 1925, after hearing narcotic charges filed against the doctor.

Dr. Frank C. Hart of Portland, Oregon, under a five-year sentence in McNeil penitentiary for violating the Mann Act, yesterday, through his attorneys, argued the case before the United States Circuit Court of Appeals.—San Francisco Chronicle, February 13, 1926.

H. H. Heddens, referred to in "News Items" as having been charged with violation of the Medical Practice Act at Bakersfield, California, was recently bound over to the Superior Court for trial (Bakersfield Californian, February 2, 1926). Although Heddens claims to have graduated from a medical school and to be licensed to practice in the state of New York, correspondence with the New York authorities has failed to verify his assertions; nor can it be found that he is a graduate of a medical school or licensed as a physician and surgeon anywhere in the United States.

Dr. L. T. A. Hotten, president of the Charity Anti-Cancer League, was reported recently convicted in Los Angeles on a charge of violation of the Harrison Narcotic Act. The records of the Board of Medical Examiners show that his name was formerly Hottendorf.

Heinz George A. Hummel petitioned the Board of Medical Examiners at the meeting recently held in Los Angeles to restore his license revoked February 21, 1924, and after a hearing the board decided to make no change in the record.

At a regular meeting of the Board of Medical Examiners held in Los Angeles March 9, 1926, the certificate heretofore issued entitling Charles K. Holsman, M. D., to practice as a physician and surgeon in the state of California was revoked, following hearing of a complaint based on conviction of violation of the United States postal regulations. The conviction followed an indictment by the United States Grand Jury, charging Charles K. Holsman, Henry L. Giles, Gideon M. Freeman, Ambrose E. Simms, and Otto C. Joslin (since deceased) with violation of the federal statutes. Page 200 of the 1919 directory carries the entry: "Holsman, C. K., M. D., sentenced to pay a fine of $1500 and serve ninety days in the Los Angeles County Jail; conviction affirmed on appeal, judgment of lower court executed."

At a regular meeting of the Board of Medical Examiners held in Los Angeles March 10, 1926, Robert D. Kelso, M. D., was found guilty in connection with a narcotic charge, and imposition of sentence was suspended until the July meeting.

Dr. Franklin E. Kerr of Orange must serve the sentence imposed upon him by Federal Judge James after his conviction on a charge of sending poisoned candy through the mails to his divorced wife, Dr. Luella F. Kerr of Fillmore, according to a decision of the United States Circuit Court of Appeals in San Francisco yesterday (San Francisco Illustrated Daily News, February 25, 1926). Dr. Kerr has been cited to show cause why his license to practice in California should not be revoked—based upon the federal conviction—and final hearing has been deferred pending the possibility of an appeal to the United States Supreme Court.

Dr. Charles J. King (314 Twentieth Avenue, San Francisco), a physician, was arraigned in police court today as a slautoist.—San Francisco Bulletin, March 2, 1926.

"An additional two years' probation was imposed on Dr. O. A. Kvello of the Kvello Hospital at Hemet by the Board of Medical Examiners on March 10, 1926. He was placed on probation in 1923 for alleged violation of the narcotic law. The new probation carried additional terms of surrender of his federal license to prescribe drugs and liquor."

W. H. Lockman, a former physician, was charged with performing an illegal operation in a complaint filed by Deputy District Attorney McIsaac (Los Angeles Times, February 17, 1926). The certificate entitling William H. Lockman, M. D., to practice as a physician and surgeon in the state of California was revoked February 16, 1921.

Mrs. Christina Loose, recently acquitted of manslaughter after an operation on Mrs. Charlotte J. Sweet, pleaded guilty to violating the State Medical Act yesterday in Oakland, and was fined $50. She was charged with two offenses, following the death of Mrs. Sweet, wife of a ballroom proprietor, last September (San Francisco ——, February 21, 1926). Although newspaper reports relate that Christina S. Loose claims to be a graduate of a medical college, a thorough investigation fails to substantiate such a claim.

At a regular meeting of the Board of Medical Examiners held in Los Angeles March 9, 1926, Frederick K. Lord, M. D., charged with habitual intemperance, was found guilty, and his license to practice as a physician and surgeon in the state of California suspended for a period of one year.

Charles E. Marsh, naturopath, whose California license was revoked February 15, 1922, and restored February 12, 1925, was recently indicted by the county grand jury, according to the San Diego Union of March 11, 1926, in connection with the death of Mrs. Louise Giovanazzi, following an illegal operation.

The Los Angeles Times of March 16, 1926, relates the recent plea of guilty entered by R. J. McAdory, a physician, charged with narcotic violation, and sentence of himself and wife to ninety days in the county jail, said sentence being suspended, and both committed to the state asylum at Patton.

A press dispatch dated Jefferson City, Missouri, February 5, printed in the Saint Louis Star of the same day, relates: "Yesterday's decision by the Supreme Court, in which it refused to interfere in an injunction suit filed by Clara W. McGrew of Saint Louis against the State Board of Health, will result only in greater delays in efforts of the board to revoke medical licenses of those charged with obtaining them improperly. . . . Dr. James Stewart, secretary, in commenting on the decision, said the board had expended $12,000 in its efforts to revoke the medical license obtained by questionable methods and to rid the state of unqualified practitioners. . . . "

Dr. F. B. Mohn of 103 South Westlake Avenue, Los Angeles, was recently ordered to appear before the prohibition chiefs to show cause why his prescription permit should not be revoked for alleged misuse of the privilege, according to the Los Angeles Herald of March 13, 1926.

At a regular meeting of the Board of Medical Examiners held in Los Angeles March 11, 1926, the certificate heretofore issued Robert W. Renwick, entitling him to practice as a physician and surgeon in the state of California was revoked, he having been found guilty of aiding and abetting an unlicensed practitioner. The Los Angeles Times of March 12, 1926, relates: "Renwick, according to evidence before the board, was employed by Roy Finney who treated foot troubles in a Hill Street office in 1923. Finney, it was asserted, had no license, but operated under cover of Renwick. One Bowman, a patient, died, and as a result Finney was convicted of practicing without a license, it was asserted by board members."

A bench warrant for the arrest of Paul Sandford, charged with practicing medicine without a license, was issued yesterday by Superior Judge L. S. Church when Sandford failed to put in an appearance at his arraignment. . . . According to W. H. Brunk, attorney for Sandford, he was not notified that the case would be called and denied that Sandford is a fugitive from justice.—Oakland Times, February 10, 1926. (News Items in the January, 1926, issue, page 97, gives the early history of this case.)

According to the San Diego Evening Tribune of March 10, 1926, Dr. John H. Seiffert was being held in the county jail at San Diego under charge of murder based on the death last week of Mrs. Louis Giovanazzi, following an alleged illegal operation.

The Los Angeles Herald of March 15, 1926, relates that "Dr. W. A. Shafer" was to be sentenced, following

a plea of guilty "to violating the Volstead Act in selling alcohol to federal prohibition agents." We find no one named W. A. Shafer licensed to practice in California, our special agent relating that Shafer has desk room in a business building in Los Angeles, and his business card shows that he is selling automobiles.

In a press dispatch dated Seattle, February 23, 1926, published in the San Francisco Chronicle of February 24, 1926, it is related that "Arvid Silverberg, Seattle physician, sentenced to one year at hard labor at Alcatraz Island, San Francisco, was refused a writ of habeas corpus in the federal court here today. Silverberg, sentenced for evading the draft in the World War, attacked the sufficiency of the case against him, maintaining that he had not been properly notified when drafted.

Following a lengthy investigation by federal agents and the sheriff's office of Riverside County, government inspectors yesterday arrested Dr. Fred Strasser at Hemet on a Harrison narcotic charge. Agents Munroy and Edmonds, posing as dope addicts who had just arrived in Southern California from an Eastern state, succeeded in making several purchases of drugs from the accused physician, they reported.—Los Angeles Examiner, February 21, 1926.

Dr. L. P. Strayhorn, physician of Montebello, was arrested yesterday by Secret Service Agent W. W. Ashe and Deputy United States Marshal Finn on a federal complaint issued at Houston, Texas. The physician was alleged to have made false statements in obtaining a loan in August, 1922, from the Federal Land Bank at Houston. Dr. Strayhorn was issued a reciprocity certificate (based on Texas credentials) October 24, 1923.

At a regular meeting of the Board of Medical Examiners held in Los Angeles March 10, 1926, a certificate heretofore issued entitling William Arthur Strole to practice as a physician and surgeon in the state of California was revoked, based upon narcotic charges.

Dr. Marion Thrasher, 84, San Francisco physician, today retained attorney Gerald Halsey to represent him in a contemplated suit for $100,000 damages against his alleged enemies. . . . According to Dr. Thrasher, he was taken to the sanitarium by force, but released when he summoned a friend. . . .—San Francisco Call, March 22, 1926.

Three inspectors of the State Board of Pharmacy yesterday arrested Dr. O. R. Wakefield, Hollywood physician, in his office, 504 Hollywood Security Bank Building, on a charge of selling narcotics. Three purchases of narcotics were made from the doctor during as many days, according to the officers. . . .—Los Angeles Examiner, February 6, 1926.

A press dispatch dated New Orleans, March 9, printed in the Los Angeles Times of March 10, 1926, relates: "Albert B. Walker, alias M. B. Remington, who is asserted to have admitted he was on parole from San Quentin penitentiary, was arrested here by federal authorities, charged with impersonating a federal office and with passing a worthless draft on a fictitious bank at Washington, D. C. Walker registered at the De Soto Hotel, one of the smart hostelries here several days ago under the name of Remington and aroused suspicion when, it was asserted, he displayed cards which stated he represented the United States Department of Justice and the United States Public Health Service." Inquiry from the warden of San Quentin prison discloses the possibility that the individual referred to may be inmate A. B. Walker, No. 39,421, who is not a licensed physician and at no time in practice, but merely used the title of doctor on fictitious checks. From the Sacramento Criminal Identification Bureau we learn that A. B. Walker was paroled April 18, 1925, and is now wanted for violation of his parole.

Found guilty of social vagrancy, Dr. Junasai Watanabe, 47, a Japanese physician, was fined $500 in the police court today, with a jail term of six months suspended on good behavior. Watanabe and his white companion, Eline Kramer, 27, were arrested by Detective Sergeant Cooley on information from Seattle that the Japanese had deserted his wife and nine children there, and was living with a white woman . . . the woman being fined $250 with the same jail sentence suspended. It was her contention that she was employed merely as a nurse for Wanatabe, who is said to suffer from heart trouble—San Diego Tribune, February 11, 1926.

At a regular meeting of the Board of Medical Examiners held in Los Angeles March 9, 1926, the certificate heretofore issued Ludwig Wolfsen, M. D., entitling him to practice as a physician and surgeon in the state of California, was suspended for a period of one year, following a hearing on narcotic charges.

A recent press dispatch dated Indianapolis March 10, 1926, relates: "A physician or surgeon canot be held responsible if a sponge is left inside a patient upon whom he has operated, the Appellate Court related today in reversing the decision of the Owen Circuit Court, which awarded $9000 damages to Mrs. Arta Bonham of Bicknell against Dr. Vance A. Funk of Vincennes." This is one for the malpractice insurance attorneys to conjure with.

Protest against a ruling of Attorney-General U. S. Webb proscribing the use of therapeutic devices by chiropractors was voiced this week in a mass meeting of 200 chiropractors of Los Angeles and Hollywood. . . . An attorney has been retained to probably handle a test case through the courts, and will co-operate with a similar association of chiropractors in the North concerned with the same issue.—Hollywood Citizen, February 25, 1926.

San Bernardino physicians and druggists today received copies of one of the most important bulletins recently issued by the federal prohibition administrator's office in Los Angeles, dealing with the question of issuance of liquor prescriptions. . . .—San Bernardino Telegram, February 17, 1926.

According to the Saint Louis Star of March 6, 1926, revocation of the charters of the Saint Louis College of Physicians and Surgeons and the Kansas City College of Medicine and Surgery, which were named repeatedly in the medical diploma-mill exposé of the Star, is recommended in a report filed today in the Supreme Court at Jefferson City by Edwin J. Bean. He acted as special commissioner of the court, and heard testimony in the attorney-general's suits to oust the colleges. Following the filing of the commissioner's report, it was announced that the two cases would be set for May 5 for arguments and final submission to the Supreme Court. . . .

Declaring hundreds of people in Los Angeles are being humbugged by fake psychics, City Prosecutor Jack Fredilander has instituted a vigorous campaign against "mediumistic fakirs."—Santa Monica Outlook, February 15, 1926). The diploma-mill exposé related how easily certificates of ordination, etc., could be obtained by those desiring to practice as "mediums," etc.

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"In my reading of the past few months I have gone through a fairly representative collection of anti-evolution books and pamphlets, and note that, like the anti-vaccinationists and anti-animal experimentalists, the writers of this eccentric literature have an unerring instinct which leads them to quote as authorities persons who are unknown to specialists in the subjects concerned or, if indubitable authorities are quoted, the extracts selected belong to a time when knowledge of the subject had not advanced to its present stage. They quote authorities to win decisions or to capture votes, not to establish truth."—From address of the retiring vice-president of Section F—Zoology—American Association for the Advancement of Science, Science, February 12, 1926.

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"You would not lead a blind man half-way across a busy street and leave him there at the mercy of the traffic." This is what we do when we erect excellent sanatoria, treat the patient successfully and then discharge him into the competitive world to find his place. He knows the cost of ill health and appreciates the value of being fit. He is anxious to earn a living, and after all the money it has cost someone to get him well he deserves every possible assistance from his fellow-citizens. —Canada Medical Association Journal.

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In the United States there is spent annually approximately $60,000,000 to care for the 150,000 children in orphan asylums and in institutions, with an additional $200,000,000 invested in property by public and private funds.—Dearborn Independent.

## MOBILIZATION OF MEDICAL RESERVE UNITS, NINTH CORPS AREA

Progress in the organization of the Medical Reserve Units of the Ninth Corps Area has extended to the point where a number of them have been directed to prepare their plans for mobilization in case of emergency. In a general way, units which have three-quarters or more of their commissioned personnel, including their executive staff, have been directed to prepare their mobilization plans. The following units have already been mobilized or are preparing their plans therefor. Their figures for personnel are as of April 1, 1926. In a number of instances, steps have already been taken to enroll suitable officers for the few remaining vacancies.

| Unit | Home Station | Commanding Officer | Commissioned Personnel Required, all Branches | Commissioned Personnel Assigned | Commissioned Vacancies | Percentage Completed |
|---|---|---|---|---|---|---|
| 90th Evac. Hosp. | San Diego, Calif. | Col. Alfred E. Banks, San Diego. | 40 | 33 | 7 | 82.5 |
| 88th Evac. Hosp. | San Francisco, Calif. | Col. Harry G. Ford, San Francisco. | 40 | 33 | 7 | 82.5 |
| 81st Evac. Hosp. | Los Angeles, Calif. | Lt.-Col. Charles T. Sturgeon, Los Angeles. | 40 | 35 | 5 | 87.5 |
| Gen. Hosp. No. 35 | Los Angeles, Calif. | Col. Henry K. Lissner, Los Angeles. | 42 | 32 | 10 | 76.1 |
| Sta. Hosp. No. 139 | San Francisco, Calif. | Lt.-Col. Charles L. Garvin, Livingston. | 13 | 12 | 1 | 92.3 |
| Sta. Hosp. No. 149 | San Francisco, Calif. | Lt.-Col. Justus M. Wheate, San Francisco. | 13 | 11 | 2 | 84.6 |
| Sta. Hosp. No. 150 | Los Angeles, Calif. | Lt.-Col. Raymond L. Akin, Sawtelle, Calif. | 13 | 11 | 2 | 84.6 |
| Sta. Hosp. No. 142 | San Francisco, Calif. | Lt.-Col. Charles E. Mordoff, San Leandro, Calif. | 13 | 11 | 2 | 84.6 |
| Hosp. Train No. 44 | Sacramento, Calif. | Maj. Herbert A. Abbott, San Francisco. | 4 | 4 | 0 | 100 |
| Hosp. Train No. 55 | Los Angeles, Calif. | Maj. David H. Keller, Los Angeles. | 4 | 4 | 0 | 100 |
| Hosp. Train No. 71 | Sacramento, Calif. | Maj. Joseph G. Noble, Camp Kearney, Calif. | 4 | 4 | 0 | 100 |
| 3rd Conval. Hosp. | San Francisco, Calif. | Col. J. Wilson Shiels, San Francisco, Calif. | 21 | 20 | 1 | 95.2 |
| 67th Surg. Hosp. | Los Angeles, Calif. | Maj. Walter A. Bayley, Los Angeles. | 20 | 18 | 2 | 90 |
| Med. Lab. No. 1 (Aviation) | Sacramento, Calif. | Maj. Peter De Obarrio, Alameda, Calif. | 6 | 5 | 1 | 83.3 |
| Gen. Hosp. No. 61 | Salt Lake City, Utah | Lt.-Col. Howard B. Kirtley, Salt Lake City, Utah. | 42 | 38 | 4 | 90 |
| Sta. Hosp. No. 136 | Salt Lake City, Utah | Lt.-Col. Chauncy M. Benedict, Salt Lake City, Utah. | 13 | 11 | 2 | 84.6 |
| Hosp. Train No. 1 | Salt Lake City, Utah | Maj. Carl L. Sandberg, Salt Lake City, Utah. | 4 | 4 | 0 | 100 |
| Gen. Hosp. No. 145 | Billings, Mont. | Awaiting assignment. | 42 | 38 | 4 | 90 |
| Sta. Hosp. No. 138 | Portland, Ore. | Maj. Calvin S. White, Portland, Ore. | 13 | 10 | 3 | 77 |
| Hosp. Train No. 65 | Corvallis, Ore. | Maj. Claude L. Armstrong, Portland, Ore. | 4 | 3 | 1 | 75 |
| Sta. Hosp. No. 140 | Spokane, Wash. | Lt.-Col. Ralph Hendricks, Spokane, Wash. | 13 | 10 | 3 | 77 |
| Sta. Hosp. No. 141 | Cheyenne, Wyo. | Lt.-Col. John Hynds, Buffalo, Wyo. | 13 | 10 | 3 | 77 |

The following-named Medical Corps Reserve officers are attached to the units as indicated below, and to the positions within the units, as indicated after their respective names:

**To General Hospital No. 30, Communications Zone:**
Lieutenant-Colonel Stanley F. Berry, 307 Dalziel Building, Oakland, California, as Chief of Medical Service.
Major Joseph S. Hart, 1515 Hillside Drive, Burlingame, California, as Assistant to Chief of Surgical Service.
Major Humphrey P. Palmer, 5674 Keith Avenue, Oakland, California, as Assistant to Chief of Surgical Service.

**To General Hospital No. 47, Communications Zone:**
Major William C. Cotton, Bank Building, Atwater, California, as Chief of Laboratory Service.

**To General Hospital No. 138, Zone of the Interior:**
Major William B. Deas, 794 Fifteenth Avenue, San Francisco, California, as Assistant to Chief of Surgical Service.

**To General Hospital No. 144, Zone of the Interior:**
Major Jerome T. Gardner, 5931 Keith Avenue, Oakland, California (Temporary address, care of Pacific Steamship Company, 598 California Street, San Francisco, California), as Roentgenologist.

**To General Hospital No. 145, Zone of the Interior:**
Lieutenant-Colonel George F. Pope, Winnemucca, Nevada, as Chief of Medical Service.

**To Hospital Center No. 22, Communications Zone—Headquarters.**
Lieutenant-Colonel Louis J. Gouguet, 1027 Fourth Street, Sacramento, California, as Ophthalmologist.
Lieutenant-Colonel Lorenzo F. Luckie, 800 Vassar Avenue, Fresno, California, as Otolaryngologist.

**To Hospital Center No. 24, Zone of the Interior:**
Lieutenant-Colonel Henry S. Keyes, 832 South Highland Avenue, Los Angeles, California, as Orthopedist.
Lieutenant-Colonel Robert Smart, 2531 Second Street, San Diego, California, as Medical Consultant.
Lieutenant-Colonel Carl L. Taylor, 681 Redondo Avenue, Long Beach, California, Urologist and Dermatologist.
Lieutenant-Colonel Frank B. Whitmore, 1822 North Fair Oaks, Pasadena, California, as Roentgenologist.

The following-named Reserve officers are relieved from their present assignment and are assigned or reassigned, as indicated:

Captain Wilburn Smith, Medical Reserve, 1012 Brockman Building, Los Angeles, California, is relieved from assignment as Operating Surgeon, Sixty-seventh Surgical Hospital, Third Army, and assigned within the unit as Assistant Operating Surgeon.

Lieutenant-Colonel Thomas W. Bath, Medical Reserve, Box 473, Reno, Nevada, is relieved from assignment to Station Hospital No. 139, Communications Zone, and assigned to Hospital Center No. 24, Z. I., as Surgical Consultant.

Lieutenant-Colonel Aaron J. Rosanoff, Medical Reserve, 2007 Wilshire Boulevard, Los Angeles, California, is relieved from assignment to Hospital Center No. 22, Communications Zone, and assigned to Hospital Center No. 24, Zone of the Interior, as Neuropsychiatrist.

Colonel John W. Shiels, Medical Reserve, 291 Geary Street, San Francisco, California, is relieved from assignment to Headquarters Ninth Corps Medical Service, Corps Troops, and assigned to Third Convalescent Hospital, Third Army, as Commanding Officer.

Lieutenant-Colonel Howard P. Kirtley, Medical Reserve, 1444 Yale Avenue, Salt Lake City, Utah, is relieved from assignment as Chief of Medical Service, General Hospital No. 61 (Sutherland), Zone of the Interior, and assigned to the unit as Commanding Officer.

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The following-named Reserve officers are relieved from assignment, as indicated:

Major Emil O. Jellinek, Medical Reserve, 2226 Washington Street, San Francisco, California, is relieved from assignment to Station Hospital No. 142, Communications Zone.

Major Henry S. Kiersted, Medical Reserve, 840 Powell Street, San Francisco, California, is relieved from assignment to General Hospital No. 139, Zone of the Interior.

Lieutenant-Colonel Harry M. James, Medical Reserve, 1254 West Santa Barbara Avenue, Los Angeles, California, is relieved from assignment to General Hospital No. 35, Communications Zone.

The following-named Reserve officers are assigned, as indicated:

Lieutenant-Colonel Edward C. Moore, Medical Reserve, 511 South Bonnie Brae Street, Los Angeles, California, is assigned to General Hospital No. 35, Communications Zone, as Chief of Surgical Service.

**To Station Hospital No. 140, Communications Zone:**
First Lieutenant Nicholas B. Mondloch, Station Hospital, Fort Douglas, Utah, as Supply and Mess Officer.

**To Station Hospital No. 142, Communications Zone:**
Captain Quentin J. Barker, 2135 Ocean Avenue, San Francisco, California, as Supply and Mess Officer.
Second Lieutenant Raymond T. Donohue, 360 Valley Street, San Francisco, California, as Adjutant and Detachment Commander.

**To Station Hospital No. 144, Communications Zone:**
First Lieutenant Allen J. McCarthy, United States Veterans' Hospital No. 102, Livermore, California, as Adjutant and Detachment Commander.
First Lieutenant Arthur H. Myer, 2412 Durant Avenue, Berkeley, California, as Supply and Mess Officer.

**To Station Hospital No. 150, Communications Zone:**
First Lieutenant Andrew W. Baker, 851 South Grand Avenue, Los Angeles, California, as Adjutant and Detachment Commander.
Second Lieutenant Elmer R. Jones, 2719 West Main Street, Alhambra, California, as Supply and Mess Officer.

**To Eighty-first Evacuation Hospital, Third Army:**
First Lieutenant William S. Rawlings, 967 Arapahoe Street, Los Angeles, California, as Registrar and C. O. Detachment of Patients.

**To Eighty-third Evacuation Hospital, Third Army:**
Captain Elmo D. Mathews, 2233 Eunice Street, Berkeley, California, as Adjutant and Assistant Fire Marshal.
First Lieutenant Howard E. Hodge, United States Veterans' Hospital No. 102, Livermore, California, as Mess Officer.
Second Lieutenant Vernon A. Anderson, 521 South Eleventh East Street, Salt Lake City, Utah, as Registrar and C. O. Detachment of Patients.
Second Lieutenant Merril C. Shaver, 3051 Sixtieth Avenue, Oakland, California, as Detachment Commander.

**To Eighty-fifth Evacuation Hospital, Third Army:**
Second Lieutenant Joseph F. Garnett, Station Hospital, Fort Douglas, Utah, as Registrar and C. O. Detachment of Patients.
Second Lieutenant Arthur R. Salguero, Jr., Station Hospital, Fort Douglas, Utah, as Mess Officer.

**To Eighty-eighth Evacuation Hospital, Sixth Army:**
Second Lieutenant George H. Frazier, 5322 Geary Street, San Francisco, California, as Mess Officer.

**To Eighty-ninth Evacuation Hospital, Sixth Army:**
First Lieutenant Ellis L. Spurgeon, 156 South Johnston Street, Los Angeles, California, as Registrar and C. O. Detachment of Patients.
Second Lieutenant Lloyd L. Curtice, 1800 Hillhurst Avenue, Hollywood, California, as Adjutant and Assistant Fire Marshal.
Second Lieutenant Tom M. Hall, 757 West Holt Avenue, Pomona, California, as Mess Officer.
Second Lieutenant Frank E. Kelly, 600 McComas Building, Los Angeles, California, as Detachment Commander.

**To General Hospital No. 30, Communications Zone:**
Second Lieutenant William P. Carlile, 5 Twenty-seventh Street, San Francisco, California, as Detachment Commander and Registrar.
Second Lieutenant Wyeth W. Clopton, 1270 Pine Street, San Francisco, California, as C. O. Detachment of Patients.

**To General Hospital No. 35, Communications Zone:**
Captain Julius C. Mendonse, 4279 South Harvard Boulevard, Los Angeles, California, as C. O. Detachment of Patients.

**To General Hospital No. 138, Zone of Interior:**
Second Lieutenant Ernest M. Innes, Sierra Buttes Inn, Sierra City, California, as Assistant Quartermaster.
Second Lieutenant David H. Pencovic, 807 Seventh Street, Oakland, California, as C. O. Detachment of Patients.
Second Lieutenant Ralph L. Stewart, 370 Frederic Street, San Francisco, California, as Detachment Commander and Registrar.

**To General Hospital No. 140, Zone of Interior:**
First Lieutenant Vern Wheeler, 5851 Melrose Avenue, Los Angeles, California, as Adjutant.
Second Lieutenant Opie E. Cody, 120 East Cypress Avenue, Glendale, California, as Detachment Commander and Registrar.
Second Lieutenant Meredith T. Waterman, 401 Concord Street, Monrovia, California, as Assistant Quartermaster.

**To General Hospital No. 142, Zone of Interior:**
Second Lieutenant Charles A. Huffman, 438 North San Gabriel Avenue, Azusa, California, as Detachment Commander and Registrar.
Second Lieutenant Charles G. Kirksey, 2120 East Hill Drive, Eagle Rock, California, as Mess Officer.
Second Lieutenant Percy L. Walling, 853 West Ninth Street, San Pedro, California, as Assistant Quartermaster.

**To General Hospital No. 143, Zone of Interior:**
Second Lieutenant Earl B. Gratto, Caliente Pharmacy, Caliente, Nevada, as Detachment Commander and Registrar.

**To Third Convalescent Hospital, Third Army:**
Captain Gabriel Cushman, 118 First Street, San Francisco, California. as Registrar.

First Lieutenant Harry N. Christensen, 331 Mills Building, San Francisco, California, as Adjutant, Detachment Commander, and Fire Marshal.
Second Lieutenant William F. Boehme, 1307 Market Street, San Francisco, California, as Supply Officer.

**To Sixty-fifth Surgical Hospital, Third Army:**
Second Lieutenant Melvin L. Valentine, 923 Eddy Street, San Francisco, California, as Mess Officer.

**To Seventy-first Surgical Hospital, Sixth Army:**
Captain Dudley R. Clarke, 2616 Woolsey Street, Berkeley, California, as Adjutant, Detachment Commander, and Evacuation Officer.
Second Lieutenant David Kanter, 830 Market Street, San Francisco, California, as Registrar and C. O. Detachment of Patients.

**To Seventy-second Surgical Hospital, Sixth Army:**
Captain Harold O. Sexsmith, 4564 Finley Avenue, Los Angeles, California, as Adjutant, Detachment Commander, and Evacuation Officer.
First Lieutenant William J. Davis, Station Hospital, Fort Rosecrans, California, as Registrar and C. O. Detachment of Patients.

**To Hospital Center No. 22, Communications Zone—Headquarters:**
Captain Thorfin L. Linn, U. S. V. B. Hospital No. 102, Livermore, California, as Personnel Officer and Detachment Commander.

**To Hospital Center No. 24, Zone of Interior — Headquarters:**
First Lieutenant Herbert H. Bartlett, 2461 East Eighth Street, Los Angeles, California, as Personnel Officer and Detachment Commander.

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The following-named Reserve officers are relieved from their present assignment, and are assigned as indicated:

Major Boyd M. Krout, Medical Reserve, San Joaquin General Hospital, Stockton, California, from assignment to Headquarters 349th Medical Regiment, Ninth Corps, as Neuropsychiatrist, and assigned to General Hospital No. 138, Communications Zone, as Assistant to Chief of Medical Service.

Captain Emil W. Myer, Medical Reserve, Southern California State Hospital, Patton, California, from assignment to 427th Hospital Company (Motor) 349th Medical Regiment, Ninth Corps, and assigned to General Hospital No. 142, Zone of the Interior, Medical Ward Officer.

Captain Floyd H. Racer, Medical Reserve, Lomita, California, from assignment to 427th Hospital Company (Motor), 349th Medical Regiment, Ninth Corps, and assigned to General Hospital No. 142, Zone of the Interior, as Medical Ward Officer.

Captain Orion C. Jones, Medical Reserve, Lompoc, California, from assignment to 427th Hospital Company, 349th Medical Regiment, Ninth Corps Troops, and assigned to General Hospital No. 144, Zone of the Interior, as Medical Ward Officer.

Captain Edward N. McKee, Medical Reserve, 5738 Highland Avenue, Eagle Rock, California, from assignment to 427th Ambulance Company, 349th Medical Regiment, Ninth Corps Troops, and assigned to Evacuation Hospital No. 69, Sixth Army, as Roentgenologist.

Major Edwin E. Hobby, Medical Reserve, 693 Sutter Street, San Francisco, California, from assignment to 349th Medical Regiment (Headquarters), Ninth Corps Troops, and assigned to Surgical Hospital No. 71, Sixth Army, as Operating Surgeon.

Major Carl L. Smith, Medical Reserve, P. O. Box 131, Adin, California, from assignment to Battalion Commanding Officer Hospital Battalion, 349th Medical Regiment, Ninth Corps Troops, and assigned to Medical Laboratory No. 2 (Aviation) Communications Zone, as Commanding Officer (Flight Surgeon).

Captain Orris R. Nyers, Medical Reserve, 431 F Street, Eureka, California, from assignment to Regimental Headquarters, 349th Medical Regiment, Ninth Corps Troops, and assigned to Medical Laboratory No. 2 (Aviation), Communications Zone, as Psychologist.

Captain Julian C. Kennedy, Medical Reserve, 370 Lincoln Avenue, Calistoga, California, from assignment to Medical Laboratory Section of the Service Company, 349th Medical Regiment, Ninth Corps, Troops, and assigned to Nineteenth Corps Medical Headquarters, Nineteenth Corps Troops, as Epidemiologist and Statistician.

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The following-named Reserve officers are relieved from assignment, as indicated:

Captain Hiram B. Duncan, Medical Reserve, 969-975 Flood Building, San Francisco, California, from Medical Laboratory No. 2 (Aviation), as Laboratory Clinician.

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The following-named Medical Corps Reserve officers are assigned to the 104th Division, and attached to the 414th Infantry, 104th Division:

Captain Rush Brown Stevens, 1236 Yale Avenue, Salt Lake City, Utah.
First Lieutenant Silas Schwartz Smith, 261 Third Avenue, Salt Lake City, Utah.

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The following-named Reserve officers are assigned, relieved and assigned to organizations, as indicated:

Captain Roscoe S. Van Pelt, Medical Reserve, 309 Haas Building, Los Angeles, California, is assigned to Headquarters, 386th Engineer General Service Regiment, C. Z.

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The following-named Reserve officers are assigned, as indicated:

First Lieutenant Leonard Everett Croft, Medical Re-

serve, Soldiers' Home, Sawtelle, Los Angeles, California, to General Hospital No. 142, Zone of the Interior, as Medical Ward Officer.

Captain Franklin Hyatt Raley, Medical Reserve, 420 East Third Street, Salt Lake City, Utah, to Station Hospital No. 136, Communications Zone, as Surgical Ward Officer.

Lieutenant-Colonel Harry Murray James, Medical Reserve, 1254 Santa Barbara, Los Angeles, California, is attached to Hospital Center No. 24, Zone of the Interior, as Chief of Medical Service (Convalescent Camp).

Major Henry Stevens Kiersted, Medical Reserve, 840 Powell Street, San Francisco, California, to General Hospital No. 30, Communications Zone, as Executive Officer.

Major Emil Otto Jellinek, Medical Reserve, 2226 Washington Street, San Francisco, California, to General Hospital No. 138, Communications Zone, as Assistant to Chief of Medical Service.

First Lieutenant Frank John Ratty, Medical Reserve, 4820 Cape May Avenue, Ocean Beach, California, to Evacuation Hospital No. 90, Sixth Army, as Medical Ward Officer.

First Lieutenant William F. Stein, Medical Reserve, 1020 Mattei Building, Fresno, California, from assignment to the Second Veterinary Evacuation Hospital, Third Army, and assigned to Headquarters 363rd Infantry, 91th Division, as Medical Officer.

Captain Alfred Cyril Callister, Medical Reserve, 442 A Street, Salt Lake City, Utah, to General Hospital No. 61 (Sutherland), Zone of the Interior, as Surgical Ward Officer.

First Lieutenant Harry Mitchell Kanner, Medical Reserve, Box 34, Colfax, California, to the 312th Observation Group, Sixth Army.

First Lieutenant Mark Lewis Gerstle, Jr., Medical Reserve, 310 Sansome Street, San Francisco, California, 340 Observation Group, Nineteenth Corps.

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The following-named Infantry Reserve officer is assigned to the Ninety-first Division:

Major Robert T. Jellison, Medical Reserve, 1451 Yale Avenue, Salt Lake City, Utah, is assigned to General Hospital No. 61, Zone of the Interior, as Executive Officer.

## FUTURE MEDICAL MEETINGS

All Western medical and health agency organizations are invited to keep California and Western Medicine supplied with the dates, name and address of executive officer of coming meetings for insertion in this directory.

**American Medical Association,** Olin West, Chicago, Secretary and General Manager, Washington, D. C.

**California Medical Association,** Emma W. Pope, Balboa Building, Secretary, Los Angeles.

**Nevada Medical Association,** Horace J. Brown, Reno, Secretary, September 24-25, Reno, Nevada.

**Utah Medical Association,** Frank B. Steele, Salt Lake City, Secretary, May 6-8, Salt Lake City.

**Pacific Coast Surgical Association,** Edgar L. Gilcreest, San Francisco, Secretary, February, 1927, Del Monte.

**Pacific Northwest Medical Association,** Frederick Epplen, Spokane, Secretary, July 1-3, Spokane.

**Pacific Coast Oto-Ophthalmological Society,** Kaspar Pischel, San Francisco, President, ———.

**Northern California Medical Association,** John D. Lawson, Woodland, Secretary, ———.

**California Association of Physiotherapists,** Miss Mabel Penfield, 560 Sutter Street, San Francisco, Secretary, ———.

**Southern California Medical Association,** C. T. Sturgeon, 1136 West Sixth Street, Los Angeles, Secretary, ———.

**California Association of Medical Social Workers,** Mrs. Sophie Mersing, Mount Zion Hospital, San Francisco, Secretary, ———.

**Medical Women's National Association,** Lena K. Sadler, 533 Diversey Parkway, Chicago, Secretary, ———.

**California State Nurses' Association,** Mrs. J. H. Taylor, 74 New Montgomery Street, San Francisco, Secretary, June 28 to July 2, Long Beach, California.

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I believe that in science has come the chief revelation of the will and purposes of God that has been made to our generation. I believe that it is more important for the Christian preacher to understand this new revelation, and to apply it to his ethical teaching, than to cultivate a sympathy with social revolution and the "demands" of manual labor. Perhaps the great struggle of the future will be between science and sentimentalism, and it is by no means certain that the right side will win. . . .—Dean W. R. Inge.

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A popular vote was taken in France recently to determine who, in all French history, is the most popular hero of all time. Many thought that Napoleon Bonaparte would win. But he did not. Louis Pasteur won. Napoleon was next, but thousands of votes behind.

In large cities there is a group of physicians and surgeons of outstanding ability who gain their eminent position by hard and conscientious work. Then there is the group of younger men of the same type striving for a place in the sun by the same route. These two groups are a credit to the medical profession. But there is another group which varies in number according to the size of the city, the larger city having the greater number. This group is made up of poorly trained, lazy, ignorant and careless medical men, fakers, quacks, and charlatans. A city the size of New York is filled with such men practicing the healing arts, reaping a good financial harvest. Why can men of the last class thrive in a large city and why do they usually starve in rural districts? Simply because in a large city there is no one to check up on their mistakes; they and their work are lost in the crowd; the pitiless light of publicity does not shine upon their ignorance and their mistakes are buried. In large cities a gift of gab, polished manner, fine offices, the right location and a small amount of ability will carry a physician a long way toward financial success as a practitioner. In the city a quack can always call in a consultant from the first two groups or he can send the patient to a hospital and thereby clear his own skirts and cover up his ignorance. But the practice of the healing arts in a rural district or small town is quite different. A doctor may look the part and may have good offices, on the right street, but if his results are poor he is through. A rural practitioner must be physically strong and willing to travel long distances day or night, winter or summer, over rough roads. He must be self-reliant, for there is no chance to call in a consultant, no hospital to rush to for aid, nothing but his own skill, ingenuity and nerve to take him through the worst emergencies with the eyes of relatives and often of the whole town upon every move. . . . Probably the most potent factor in undermining the rural doctor's reputation are the petty jealousies, sly remarks and innuendoes of the rival physicians themselves. . . . Rural districts are losing their doctors, not because there is a general scarcity of physicians, but for the following reasons: 1. They demand a higher type of physician than the average city practitioner and expect to pay less for the service. 2. A country doctor has a hard and strenuous life compared to the easy office life in the city. 3. Country life offers very few of the refinements that are enjoyed in the city. 4. Rural districts want a local physician for only the emergency calls, and these are too few in number to support an average physician. The ubiquitous Ford makes it possible to run the chronic and subacute cases to the neighboring city. No matter how much ability the local physician may have, still a certain percentage of the people will think that the distant doctor is the best, just like the cows think the grass in the adjoining pasture is the greenest.—Charles L. Larkin, Medical Journal and Record, March 17, 1926.

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Why is it that those who practice medicine are the natural enemies of quackery and charlatanism, through which, under the guise of miraculous cures, avaricious imposters trade upon the credulity of the ignorant?

Let us employ Webster's Dictionary. "Medicine" is defined "as the science which relates to the prevention, cure or alleviation of disease." "Science" is "ascertained truth" or accumulated and established knowledge." "Practice" is the "application of science to the wants of men." Applying these definitions, the practice of medicine may be defined as the application of ascertained truth and established knowledge to the prevention, cure or alleviation of human diseases.—Lloyd Paul Stryker, Counsel New York Medical Society, New York State Journal of Medicine.

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Have you noticed that American men, women, and children are three times as beautiful as they were in 1915? Oh, you must have done so; statistics show it, and so does Charles Nessler, president of the Master Hairdressers' Association of America. Mr. Nessler's figures show that there are 30,000 beauty parlors in this country, three times as many as there were in 1915; that they took in $390,000,000 of the people's money that year and that they were patronized by 60,000,000 men, women, and children.—New York Sun.